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German Appreciation of English Enthusiasm. Greek Architecture.

PROFESSOR Adolf Michaelis, of the now German University of Strasburg, has recently contributed an account of the Society of Dilettanti to C. Von Lutzow's *Zeitschrift fur bildende Kunst*, which is agreeable as a tribute very liberally vouchsafed from that side for the services of England to architecture and other arts. It contains, moreover, many particulars very industriously collected and skilfully combined, which might be novel and interesting enough to the world at large here, in the midst of which the Society still flourishes. It is not unnatural that some curiosity should be felt, in countries where Governments undertake everything, respecting a purely private and unprofessional society, now well beyond the first quarter of its second century, which has made a mark that justifies the terms in which the monograph comes to conclusion.

"When we look back at the long series of stately folios which partly are due to the initiative of the Society, and partly to its assistance and encouragement, we can scarcely over-estimate the services of this private society. The knowledge of Greek architecture especially has not only been promoted by it, but had its very foundation laid, in the first instance, by the 'Athenian and Ionian Antiquities,' which brought to an end the absolute sway of Roman architecture in both theory and practice; moreover, the most subtle refinements of Greek construction have been first appreciated by the labours of architects of our own century, who acted on the part of this society." The writer goes on,—"Some of the chief characteristics of the British nation come before us here in combination; energetic," &c., compliments which it is more appropriate for us to acknowledge gracefully than to parade. Within the last week, at the sale of the library of the late Baron Heath, a former member of the Society, some copies of its publications brought prices which vindicate the Professor's enthusiasm. Thus runs the notice of the sale at Christie's:—"Dilettanti Society: 'Specimens of Ancient Sculpture, 1809-35,' 13*l.*; ditto, 'Antiquities of Ionia,' 3 vols., 1797-1840, 9*l.* 10*s.*; Penrose's 'Principles of Athenian Architecture,' 1851, 7*l.* 15*s.*"

In the notice which we are considering, Professor Michaelis has made good use of the knowledge which he obtained a few years since by personal visits to all the private collections of sculpture in England. Most of these were formed by the earliest members of the Society, or by their contemporaries; and the second chapter, on the "Dilettanti as Collectors," comprises a detailed history of the progress and fluctuations of taste in art, and also of the fashions of taste, which is highly instructive. Along with the instruction we may attend to some notes of warning. What permanent mischief may ensue when the revolutions of fashion are not watched,—checked they can scarcely be, by intelligence, is shown by one unfortunate example. Lord Guilford, who was a Dilettante, formed a collection of Greek sculpture of much interest at the beginning of the century; he died in 1827, and whither the collection went in its dispersion or removal is known to no man. Most unfortunately, one of the very prime documents for the history of sculpture and elucidation of archaic mythology,—the Corinthian *puteal*, with a procession of divinities,—seems gone for ever. Such a survey as the Professor carried out among private collections has not only the good result of informing us what treasures exist in the country, but it is to be hoped will put the authorities who control our National Museums on the alert, to take care on like occasions that they are not lost sight of, or, better than all, that they are secured from further wandering, and safely housed as property of the nation.

The traceless dispersion of Lord Guilford's collection is further to be lamented, as it very probably comprised some of the objects which were obtained by the excavations of Vely Pasha at Argos. That one of the inscriptions which were then discovered was in Lord Guilford's possession is on record; and it is probable that, in accordance with the prevalent taste of the period and his own, he purchased along with it some of those marbles by which it is known that the Pasha realised a good sum. To have identified and localised some of these would have been part compensation for the loss of all but the general particulars of his "find" of a treasure, which was clearly of the same nature as that of Dr. Schliemann on the Acropolis of Mycenæ.

Among the abortive plans of the Society,—where much seed is sown and much flourishes, some of necessity must fail,—is noticed a scheme, which it propounded in 1761, for the formation of a comprehensive gallery of casts from the antique, "in order that the Society, in accordance with its original purposes, might contribute to the cultivation of a public taste for art." Allusion is made to such realisations of such a plan, as the "glass palace" of Sydenham and South Kensington; but much more remains to be done, and upon a revised plan, before London can boast of setting before her holiday-makers and students objects which combine more influence upon taste with instruction and attractiveness, than a gorilla or a hippopotamus.

In the *Edinburgh Review* for 1857 there is a certain account of the Society, which is ascribed to the always graceful pen of Lord Houghton; but more minute particulars have been derived from a memoir which was written by a late secretary, Mr. W. R. Hamilton, but only circulated among the members.

Horace Walpole announced the establishment of the Society to his friend, Sir Horace Mann, at Florence, with characteristic sarcasm:—"A new club," he says, "has lately been established here, called the 'Dilettanti.' The nominal qualification consists in having been in Italy; The real, in getting drunk there. The two leaders are Lord Middlesex and Sir Francis Dashwood, who all the while they were in Italy were seldom sober." The habits of the time may readily have suggested the easy sneer. Walpole, nevertheless, was a true dilettante; the most estimable direction of his taste was towards Gothic architecture, though he had a far less adequate appreciation of its spirit than the founders of the Society,—the Townleys, Payne Knights, Englefields, and Hamiltons,—had of the works of Greek and Roman art, to which they turned in preference. Otherwise the somewhat small predilection of Walpole for curios and rarities for their own sake, made him the very type of a dilettante in the disparaging sense which such overdone estimation *rerum mediocriter utilium*, has connected with the title.

Dr. Michaelis duly records the early agitation of the Society for the establishment of an Opera and an Academy of Arts, and then pursues the story of their missions to Greece and Asia Minor, of Pars and Bedford, and Chandler and Sir William Gell, the publications of their travels, inscriptions, drawings, and the costly publications of engravings of ancient sculpture and bronzes. The two large pictures by Sir Joshua Reynolds of early members of the Society are well known by recent exhibition; they are among his very finest works, and certainly his most masterly groups; they embody the very spirit of the founders of the institution, as exhibiting a combination of refined sentiment for the arts with thorough enjoyment of genial companionship.

The publication of what Dr. Michaelis justly styles "the classical" work of Mr. Penrose in 1851 is the last of which the Society is stated to have undertaken the sole charge, completing a total expenditure in furtherance of art of over 30,000*l.* It is well known, however, that a further publication of monuments of Greek architecture is at present in progress,—and, indeed, very far advanced. Some of the Society's excavations on which it is founded have been visited by the French excavators of the Temple at Miletus, and as Dr. Michaelis observes, they have a little prematurely incorporated the acquisitions of others in their publication. This,

however, has, after all, been done with the incompleteness that might be expected under such conditions, and is not likely to supersede the interest of what is forthcoming in more legitimate form.

The Professor refers to the appendix to Mr. Cockerell's restorations of Bassæ and Ægina as treating of the proportional system of ancient temples,—a problem, he says, "about the solution of which many have exercised themselves without, however, any result that as yet is satisfactory." The best epithet he can afford for it, therefore, is "*scharfsinnige*"; but even this is much when it comes from beyond sea, and may fairly invite recurrence to the topic. The interest which has recently been recalled to theories of Greek design by Mr. Pennethorne's sumptuous and laborious work may remind architects that it is high time that the subject were fully and candidly dealt with; and for the proof of such treatment of it to be forthcoming, in something approaching to a common understanding. There are certainly abundant materials in possession in accurate measurements of fine works,—of the Parthenon especially,—and the questions, Can the problem be solved, or is it hopeless?—If the problem can be solved, what is the solution that can be safely, and confidently, and usefully accepted?—should come on for decision at once, and not be dismissed until satisfactory decisions are arrived at.

Agreement may be safely assumed upon some preliminary points which in times gone by were wont to be held as fair matters of controversy. It has become clear that the finest Greek buildings were not set out upon the system of equal squares, which has been supposed by considerable authorities to answer all requirements for Gothic plans. The equilateral triangle, again, has had its opportunity, but hopelessly failed to retain an adherent by even a flattering plausibility. The Greek foot is known to the veriest fraction, but never measures more than one considerable dimension,—the breadth of a top front step, or the full length of a naos. After this we may apply it to other dimensions, considerable or of details, and assume the liberty of dividing it alternately decimally and duodecimally, but only to experience constant failure;—strange contrast to what we find to be the case when we apply our own foot-rule to a modern building, from its largest outlines to its most subordinate details and ultimate finishings and fittings. Furthermore, the Vitruvian canons based upon the modulus have been fairly tested, but we are yet to learn that any competent authority has been satisfied that it was given to the Roman architect to transmit the true theory or even the mere practical maxims of the genius of Greece.

The problem doubtless presents itself under a double aspect; we have to discover, if we can,—a matter of archæological interest in the first place,—what was the system of which the ancient designers availed themselves, when some systematic guidance could not be dispensed with, for adopting one dimension rather than another. This is an inquiry for those who are willing to assume that a system they must have had, and who so far decline argument with others who believe that excellence could be obtained at hap-hazard by hardy reliance upon simple "scowl of brow." It is sufficient to say now that no recognition can be allowed to any system as that employed by the ancients, which does not bring out accurate results and determinations that are independent of easings, humourings, and arbitrary and uncomfortable remainders. If licence is to be admitted in these respects, we may have any number of solutions of the problem that we please with equal claim and no claim at all.

After all, however, we are not bound to accept the system, even of a Greek man of exalted genius, simply upon his authority, and without demonstration that it is appropriate, sufficient, reasonable. Such can any system only be in virtue of being susceptible of varied application in harmony with varying conditions of the architectural problem, which never are exactly the same in two cases. Be it granted, we may say, that such or such was the system that the Greek worked upon, it is still a fair challenge for us to show reason good how far we are bound to admit that this was the right system. Objectors may be ready enough to show cause that right such a system could not be,—that, as propounded, it involves essential fallacies and defects, and that therefore it could not be that which was employed to evolve such marvellous results. The retort, however, on the other hand, would doubtless be as ready, that when we take into account the marvel of the beauty which was realised, a system which can be proved to have been employed in its production must be a true and a good system. Even so, however, it still remains for us to concern ourselves with eliciting, as best we may, what were the essential principles underlying it which caused it to be true and good. Standing independently between the two controversialists, our advice to an investigator would be, to attack the problem of architectural proportion from either side in turn,—to studiously consider what should seem the rational requirements for the application of proportion to design upon broad and general principles, and then, whenever he gets hold of a plausible analogy to examine how far it has appeared to affect an executed design such as that of the Parthenon, which is an admitted example of admirable effect in all the respects which proportion can in any way influence.

Thus far have we been carried from the memoir of Dr. Adolf Michaelis; but, in truth, the architectural publications of the Dilettanti Society, for which he expresses such appreciation, comprise all the documents which are required in evidence for the decision of this subject of so high scientific and blended artistic interest. It is much to be desired that the nation which collected the materials should show itself equal to making the best use of them. Germany at present seems satisfied with the "Tektonik" of Boetticher as exhausting all that is most important respecting the development of Greek architecture. So long as that prepossession remains, we may safely be assured that no advance and no help will come from that side. The interval is our own; let us hope that between the industry and sagacity of investigators, and the candour of their critics,—which is the most effective of all encouragements,—our own will be the credit of the successful issue.

THE CRISTOFLE PLATING WORKS.

THE precious metals being rare, says a sententious French writer, money and ornament speedily absorb them; but, in all forms, they retain an unalterable value. And it is this quality which distinguishes them from other materials, even more brilliant in appearance than themselves. Red copper, perfectly scoured, is more splendid than gold, and steel, at its highest polish, more superb than silver. But both steel and copper may rust or blacken, and be disfigured and worthless for ever, by the action of the elements; but for gold and silver there is, secularly speaking, no decay. We have already spoken of gilding and of silver-plating, but the gold-work of the famous Cristofle factory calls for a special notice. It commenced with simple gilding upon wood, leather, cardboard, and paper, and went on, through long and elaborate processes of electro-metallurgy, until the founders of the works begin to bethink themselves of the paths laid out by their celebrated predecessors, and to believe that the Cellinis might have their representatives yet in modern days. Much experience, no doubt, was gained from the records of the voltaic battery, and the innumerable experiments arising from it; yet the Cristofle enterprise carries this industry above all former heights. The firm paid, for apparent violations of patent, millions (in francs) here, and millions there; it fought through long legal battles for rights and patents; it gained medals from exhibitions beyond counting; but it never succeeded in disproving the initiatory rights of the English inventors. So far, then, the Cristofle factory must be regarded as a successful adaptation, and no more,—flourishing upon expired English patents, but deserving of all possible credit on account of the spirit with which it has developed the ideas of their originators. The importance of this industry may be suggested by a simple parallel. Supposing the Cristofle works to have been executed in solid metal, they must have withdrawn two hundred millions sterling from the national currency; as it is, they have utilised, year by year, about seven millions in value of the precious metals only. This, however, is a remark merely by the way. We have nothing to do, after all, with the economy of the subject,—simply with its mechanical facts. But, to begin with, let it be understood that we have to consider a process which annually covers, upon gold and silver, a superficies equal to many thousand square acres, as they are measured upon this earth,—many thousand acres, in fact, of superficial silver and gold. The first necessity, of course, is to get rid of rust; then to do away with oil or grease, in whatever form or to whatever extent it may adhere; next, to produce a perfectly uniform surface; lastly, to determine upon the different methods to be adopted, with regard to either bronze or its kindred compounds; for, not only have different metals or compounds to be treated in different ways, but their various temperaments, as it were, have to be considered. Thus bronze, in its several stages, must be regarded as a number of distinct substances, and so with brasswork, through all its stages up to the perfection at which it can be improved by no gold or silver plating whatever. Assuming, however, that the essential processes must be gone through, after the rust has been got rid of there is a sort of earth or turf furnace, through which the metal, in the highest state of fusion, is passed; then its collection and percussion beneath the blows of a hammer, which beats the whole of the broken fragments into a fabric; afterwards the formation of another crust or rust of black copper, dispelled by a bath of sulphuric acid, diluted with water; and then, after a series of chemical baths, the metal is prepared for the Rosicrucian legerdemain. The Messrs. Cristofle avow that they rarely turn out from their works a set of solid, or even half-solid, gold or silver. When they profess to do it, it is of course done, but the demand is not great for this kind of luxury "in the solid," though, as we are assured, the saving is far less than might generally be imagined between the substantial and the imitated work of art, the latter more meritorious, often, than the former, for they require the most minute watchings of temperature in the furnace, of weight after coming out from it, of calculations as to what is true and what is meretricious material, of facings and brightenings from almost invisible and incalculable quantities. It would be impossible, without an almost inexplicable,—by figures or descriptions,—account of processes, or without artistic illustrations of the works, to recall, before the reader's eye, the stage at which this work takes practical shape in the sight of ordinary intelligence. The gold, or silver, has now been solved into a state resembling that of porcelain biscuit, capable of any polish or finish that may be desired. The moulds are ready. The metal may be plunged into them, and shaped into any forms, whether of statues, dinner-table centres, chimney ornaments, clock-cases, or those thousand-and-one shapes in which "gummed gilt" holds a position. Even now, however, the prime work of the Compagnie Cristofle has not been brought to an end. It has to be scrubbed by metallic brushes, revolving at the rate of five hundred turns a minute, and wetted with mucilaginous water; every particle has to come up in its turn, and be accurately touched; and this part of the work is carefully followed by nimble-handed girls, experienced at their tasks, whose steel instruments make up, as a rule, for whatever is deficient in the large machinery. These girls, it may be noted, are selected for their work with the utmost care, so delicate and elaborate are the tasks imposed upon them, though their earnings rarely average beyond half a crown or three shillings a day. They are incapable, in fact, of performing the labour required from men,—of hammering down gold and silver surfaces into the forms which will be required by the artist, as his models and designs in the rough; of beating heavy masses into hollow patterns, between metal and parchment; of distributing a mass of metal in the manner which gives a result [of luxury. The Messrs. Cristofle, however, understand their business, and employ men, women, and girls accordingly. Their art is now chiefly directed to the reproduction, through gilding and silvering processes, of fine-art objects, wrought by the chisel; of decorated furniture and imitative statuary; and, especially of all such objects of art, beauty, and splendour as might properly be represented by masses of solid silver or gold. They employ, to this end, an alloy of a combination peculiarly their own, or, rather, two combinations, both composed of copper and zinc, though in different proportions, the first used, so to speak, in the foundation forms, the second in the outward or auxiliary decorations; these latter being, more or less, sculptured with tools of steel. The originals, however, in each instance, must be modelled in moulds of plaster or of wax, passing through, afterwards, repetition moulds in sand

and crucibles of fire-brick or clay; and, even after these tests have been gone through, the great ordeal is to come,—the working out of the pattern by the engraver, or by his slaves, who have sunk a pattern in steel, or else in galvano-plating. At this stage, the process, whatever the principle adopted, becomes extremely interesting. It sets steam-hammers at work; it puts endless bands revolving; it draws and carves patterns upon otherwise insensate surfaces; it treats gold and silver as though they were gauze and thread, and stamps and weaves them into the imitations of Middle-age antiquity. The alloy engaged, even where electro-plating does not come into question, is of a peculiar kind, according to what is actually adopted as the Cristofle tariff,—copper, zinc, and nickel,—the last being valued as giving to the entire compound a more perfect whiteness and a greater durability. It may afford some idea of the industry thus kept going, to say that twelve furnaces are constantly at work; that a thousand hundred-weight of the "fac-simile metal" are brought under the steam-hammer every day; that miles upon miles of the glistening surfaces are prepared within the space of every twenty-four hours,—for this is a silent, as it is an unrelaxing industry,—and that, in an ordinary way, the workmen of MM. Cristofle can turn you out, for the most brilliant uses of Parisian dinner-tables, family plate at the rate of a dish-cover a minute,—sufficient, assuredly to conceal the sins of many cooks. But the dish-cover, when it comes out of the machine, is a flat piece of metal; it has to be tortured into an oval, or circular, or other shape; yet, leaving that alone, we are brought face to face with the statistics of this gigantic manufactory for one year:—300,000 dish-covers, 35,000 dessert-covers, 550,000 coffee-spoons, and 90,000 dessert-knives, and, as the statement confesses, "a whole rubric of little goldsmiths' work" for sugar-basins, sauce-boats, fruit services, and so forth. Well, the Cristofle establishment employs about 1,500 hands,—nearly all skilled,—and pays about six millions of francs a year in salaries and wages, not a single tenpence of which, we may rest assured, is thrown away. Recently, too, it has brought within the scope of its operations the application of aluminium, allied with copper, to objects of art, and the success of the experiments in this direction has been more than satisfying to those by whom they were originated. There has been a long struggle between the French and the English with respect to gold, bronze, electro-plate, and other mixed work, relatively to the art industry, and the industrial art, now common objects of ambition to both nations; and it must be matter of hope, on each side, whichever puts a foot forward in advance, that the true principle shall take the lead; so that we welcome these reports from the Cristofle factories, whether of gold and silver in their purity, or in their mellowed adaptations to the necessities and customs of the time, as pointing to prizes within reach, and well worth winning when won.

ARCHITECTURAL FOLIAGE.*

SCULPTURED foliage when well and successfully engrafted upon architecture never fails to greatly enhance its richness and elegance. This is fully in accordance with all the most perfect developments of architecture, as seen in the best works which have been handed down to us from the earliest ages, whether they are the remains left us by the Egyptians, the Greeks, the Goths, or any others. This, probably, will be conceded me without question, and, although I have read papers here on two former occasions upon the same subject, architectural foliage being an important and an interesting one, I need, I am sure, make no further apology for again bringing the subject before you.

Unfortunately, foliage is not unfrequently applied for ornamental purposes in the worst possible manner; but when well designed, and executed upon correct principles, not overlaying the architecture itself, there can be no doubt of its vastly improving the character of those works to which it may be added. There are, however, many cases where it is often injudiciously excluded, and there has been, in times past, a tendency to substitute for it plain moulded work. In numerous instances, I am aware that there is a fatal obstacle to the introduction of foliated ornamentation, because of its expense and costliness; but we not unfrequently see very elaborate attempts at decoration by the adoption of intricate moulded work, costing evidently large sums of money, which add but little to the beauty of the building. There are other cases, however, which are still more serious, where carving and sculpture of the highest class are added in the most profuse manner, but where the money and labour are entirely thrown away, because such decoration is applied upon an improper or false principle.

In all early forms of art we find plain surfaces invariably used for the development of painting or sculpture. In the Egyptian and the Assyrian, walls were made eloquent by hieroglyphics and sculpture embracing animal and vegetable forms. In the Indian, Persian, Moresque, and the Arabian, we observe that the same principle was adopted, and that the buildings and other works of these nations were literally covered with elegant combinations of foliated form, and plain moulded work is scarcely to be found. Yet all these elaborate enrichments were not added to or upon the works, but were taken out of them, and, therefore, they did not destroy their breadth or character.

It is in Greek architecture that we first see a development of plain surface, where, although friezes and pediments were enriched with matchless sculpture, still, architraves, cornices, and walls were left plain and bare, or were enriched only with plain moulded forms. The Greeks, however, appear soon to have disliked the appearance of many of their plain surfaces, and supplied the deficiency by painting. The Erechtheum was, I believe, the first temple erected in Athens where the mouldings and friezes were enriched by foliated sculpture. This, coming, as it probably did, a few years after the completion of the Parthenon, looks very much as if it may have caused a sort of dissatisfaction with the appearance of the latter temple, on account of its comparative plainness, and thus may have arisen a wish to correct this by the addition of painted decoration. They then covered their plain architraves with the meander, their unsculptured mouldings with the anthemion and other ornaments, and the lacunaria of their ceilings with the star or arrangements of foliated forms. Having, as we all know, done so much, I have no doubt that they also enlivened their walls with scenes from Grecian history, although no remains of such paintings may be found at the present day.

The Romans carried out the enrichment of their mouldings with sculpture to a greater extent than the Greeks, and they also enriched their friezes with many fine arrangements of foliage associated with animal form. But besides these, they enriched many of their plain surfaces with sculptured foliage, as in the architraves of their entablatures, as well as the coronas and soffits of their cornices. Showing also their increased partiality for foliage, they greatly developed and perfected the Corinthian capital; but not only that, they added foliage to the Ionic capital, producing what has been called the Composite, and so considerably enhancing its beauty as an enriched capital. They panelled, too, some of their pilasters with grand and magnificent foliated scrollwork. Unfortunately, however, with the exception of these last, this decoration must have been placed at too great an elevation to have been properly seen. It was left, however, to the modern Englishman to carry out these antique styles devoid of *all* enrichment or sculpture, except long lines of bare moulded form. He is the only artist who deliberately sits down and wastes his time over the contours of quirks and ogees, and by the aid of the plasterer's mould runs his entablatures, and borders all his windows and doors with his surprising combinations of mouldings. His plain surfaces are relieved only by scratching upon them lines to indicate colossal blocks of stones. Happily this phase of architecture is now nearly extinct.

I would, however, call your attention more particularly to the improper application of decorative sculpture. We have been told by one whose authority upon such points cannot be too highly valued, the late Mr. Owen Jones, as well as by others, and I suppose we all acknowledge it to be true, "that construction should be decorated, and that decoration should never be purposely constructed." Yet we constantly see buildings erected where the so-called decorations are added to or applied upon the architecture, as if the very opposite were the rule Buildings, in many instances, have become overloaded by applied ornament, instead of its being formed naturally out of the construction. Festoons and swags of gigantic size are pinned up to the surface of the walls by pateras or lions' heads, and tied there by impossible ribbons; while little window pediments are broken in the centre in order that their cornices may be piled up with immense loads of sculpture or foliage. In many modern French ceilings festoons of *papier mâché* are frequently introduced, actually hanging away from the ceiling, looped up by their extremities. Surely, if enrichment is a portion of architecture, and an integral part of it, no greater violation could be imagined than thus to separate or hang it up, as if ready to fall upon the spectator's head. Unfortunately there is a precedent found in antique architecture for these applied forms. The Corinthian capital is not a composition which grows out of and forms a part of the column itself, like the grand old Egyptian capitals; but all the parts are applied or added outside the bell, which is the actual capital,—a circumstance which, to say the least of it, has greatly aided the labours of the modern plaster-caster, but it is not composed upon such principles as should be the rule in architectural ornamentation.

It will be considered, no doubt, very fastidious, and even presumptuous, upon my part thus to condemn a form of capital which has received the support of so many centuries. I am not, however, the first to point this out; but the object is not so much to find fault with the Corinthian capital, which doubtless will still continue to be admired, and be most faithfully copied for many generations to come, but to endeavour to point out the defect which, more or less, runs through Greek and Roman architecture; and although it may not be a very prominent fault in antique examples, yet it has given rise to most unfortunate results in modern times.

No period in modern English architecture is more justly noted for foliated carving than that belonging to the school of Sir Christopher Wren, at the head of which stood Grinling Gibbons. For skill in workmanship, dexterity of manipulation, and close imitation of nature, this period stands perhaps higher than any previous or later one. It is, however, extremely unfortunate that so much of this remarkably beautiful carving should be afterwards applied and added to the construction which it is intended to enrich. Ornament, to be true, must be subservient to the purpose and to the architectural forms of the work itself. The features themselves should be enriched, and as a general rule ornament should be taken out of the material,—sunk below the surface and not laid upon it. A work may be literally covered with ornament which will immeasurably aid the beauty of the architecture when used in its legitimate place, as in the walls of the Alhambra; or, to take a more humble but not less striking example, in the elaborately carved but simple form of an Indian sandal-wood box,—it is enriched without anything being added to it, or altering its primitive form or construction.

The great effect of modern ornamentation is that it is so often represented as if it had weight in itself, and that it was absolutely necessary to hang it up, or that it should stand upon its own base, as in many of the otherwise very beautiful Italian arabesque pilasters.

The festoon, as a means of ornamenting a work, has been used in French and Italian Renaissance more than any other form, but it is essentially a bad one, and it is at the same time one of the most objectionable forms of constructed ornament. From its very nature it is added to the thing ornamented, and it is formed of an artificially-constructed collection of miscellaneous flowers and fruit. Unfortunately, it appears to have been coming into fashion again of late. Its origin, there cannot be a doubt, was derived from the Roman altars, which were decorated in the earliest times with the actual heads of the animals which were sacrificed. These were placed at the angles of the altar, and festoons of flowers were looped up from the horns and tied with ribbons. These were afterwards carved upon the altars in stone or marble, and from them the same decoration was soon transferred to the friezes of the temples. It therefore became a precedent for architectural decoration, and has been used ever since in every conceivable position. In festooned bands round buildings; under windows and over windows; over doorways; over arches and between arches;

* By Mr. James K. Colling, Fellow. Read at the meeting of the Royal Institute of British Architects, March 24th, as elsewhere mentioned.

between capitals or attached columns or pilasters; hung from eye to eye of voluted capitals and consoles, as well as on ceilings and on mosaic floors,—in fact, there is scarcely any position in which the festoon has not been used. Again, festoons are not only made up of all manner of flowers and fruit, strung together without any cohesion of parts, but of nearly everything that can be imagined, such as musical instruments, books, dead birds, shell-fish, and a multitude of other objects, as well as the ever-indispensable ribbon.

Grinling Gibbons appears never to have been able to get on without festoons, ribbons, and drops or pendants in his work. The example of a panel from St. Paul's Cathedral is a good specimen of this. It is executed in the usual manner that he adopted for nearly all his most important works, that is, it is carved in lime-tree and planted upon an oak panel. The composition is rich and bold, but somewhat confused, and at first sight the manner in which it is composed cannot be clearly distinguished. In the centre, as we perceive, there are a pair of cross trumpets tied together by a ribbon. Then there are in the upper part interlacing scrolls of a conventional type peculiar to Gibbons,—for which, in my opinion, he deserves more credit than for any other part of his work,—but to which I will refer presently. Out of the upper part of the scroll (I am now explaining one half of the panel) there drops a swag or festoon of small flowers, either periwinkles or primroses, which runs to the upper angle of the panel, and from which, hung to a single flower, drops perpendicularly a bunch of trilobed leaves, forming the end of the design. But besides this, there is a larger and bolder swag, which is in much higher relief than any other part, extending from the knot of the ribbon at the junction of the trumpets, sweeping to the bottom of the panel, and going right up to the extreme angle again, from which the smaller festoon and drop hang. This is repeated in the other half of the design, all, except the scrolls, being supposed to be hung up by artificial means. A portion hangs from the scrolls, but how they and the angle flowers are supported does not appear.

The peculiarity of the scrolls is that, instead of the leafage forming a sheath, as in nearly all classical foliage, it grows out of the stem itself, or arises from the other side of the stem, as in the examples from St. Mary Abchurch. The leafage is from nature, taken evidently from the hawthorn, and in some cases from the celery-leaved crowfoot. In richer work, as at St. Paul's, the leaves are double,—that is, one lapping over the other. A defect in these latter scrolls is that they grow in two directions,—that is, out at both ends, which might have been easily avoided. Some of the best and richest of Gibbons's scroll-work of this kind, of great excellence and beauty, is to be found in some richly ornamented and pierced oakdoors in the library of Trinity College, Cambridge. I have not, however, any sketches of them.

The fruit and flowers in the festoons are all accurately and very beautifully copied from nature, consisting of peonies, anemones, crocuses, primroses, tulips, peaches, peas, and other fruits. All are separated and disconnected, except occasionally, by some faintly carved lines or strings at the back. No part is growing, but is in "still life," and each is separately fastened in its place by means of screws, nails, and glue; and where the fruit or flowers are in very high relief, they are not worked out of one solid piece of lime-tree, but are formed of different layers of wood, about 2 in. thick, placed one upon another. Fig. 1 shows the plane surface for the reception of the next layer of flowers. There is no undercutting, properly so called, as the whole is backed off behind, and shaped previously to its being planted on the ground, which gives the work as much relief as if it consisted of actual flowers. This is not the case with the oak scroll-work which I have mentioned as that from St. Mary Abchurch, and that of the library of Trinity College, Cambridge, which is all carved out of the solid.

It will be perceived that the panel to which I have referred is made up in two different styles —the natural in the festoons, and the conventional as seen in the scrolls. Now this manner of mixing up the natural and conventional is common to most of the foliated work of the Renaissance period. Natural ivy, vine, oak, and other leaves, as well as fruit, are introduced occasionally among foliage which may be described as purely architectural, and in such an incongruous manner that they never properly

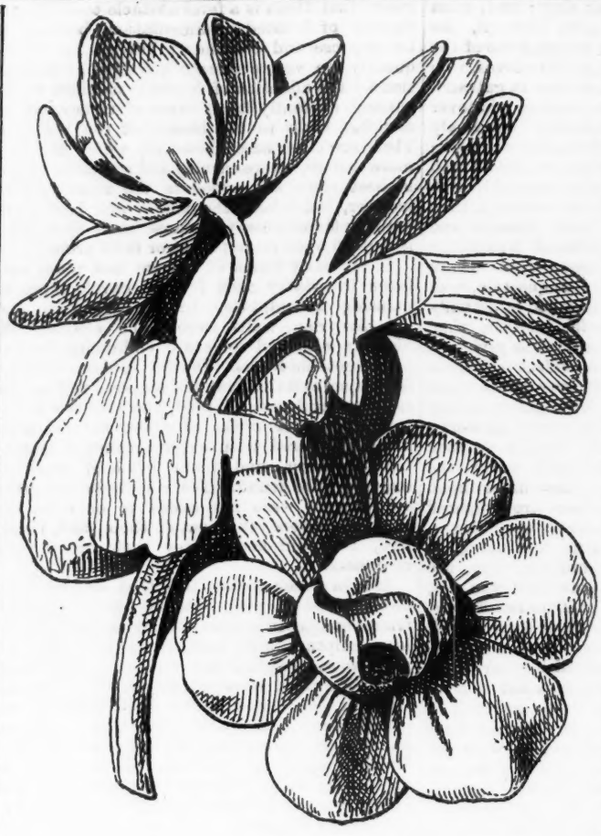

FIG. 1.

amalgamate with the other portions of the composition. Gibbons went in boldly for nature in his own style, and whenever he adopted the natural he made the conventional quite subservient. But in the French and Italian, the natural is usually introduced as if it were only an accessory. There were some exceptions, as in the border round Ghiberti's doors, which was entirely natural; but as a rule nature was introduced but timidly. There are many examples, however, even among Roman work, where natural foliage was thoughtfully and most artistically followed and worked out, as in the example from the stem of a fountain, in white marble, found near Tivoli, but now in the British Museum. A spiral line is formed round the shaft or column by a serpent, and a branch of ivy grows up from below, filling up the spaces between the coils of the serpent in a very graceful manner. The natural flow of the leaves, with their long foot-stalks, and the bunches of berries, are most faithfully and artistically rendered. Even the little buds in the axils of the leaves are introduced, showing with what minute attention they observed nature. The leaves, also, are plain and undivided, as they invariably are in nature, when found near the flower.

There are numerous other instances in Roman work where nature has thus been studiously followed; more particularly in carvings from the vine, oak, and ivy. Now what I want to elucidate by this is, that as there have been artists, even in ancient times, who have made a close and successful application of nature to art by entirely throwing over the conventional treatment of their time, that we, in the present day, should, like the ancient Roman who sculptured this beautiful stem of a fountain, throw aside all architectural precedents for foliage, except the principles upon which they worked, and boldly make our applications directly from nature. But instead of doing so, we, like many of the Renaissance workers, who also strove to re-introduce nature, are so bound by conventional rule, that we are not likely, from this timid mode of proceeding, to succeed but in a partial degree, and by adopting two different manners we must fail in harmonising them.

But artists and carvers are told by architects, and one hears it continually held up as law, that foliage for architectural purposes must be highly conventionalised, that it must not be too natural, and so on. I was in a church the other day, which had been lately restored, and I remarked to the clergyman, "Why, what commonplace designs all your new poppy-heads are." "Oh, yes," he replied, "our architect prefers them, the carver wanted to make some of them different, but the architect would not allow him to do so, but would insist upon his copying the old ones." In this manner, which is only too common a case, we are constantly trying to resuscitate the ornament of former ages. This plan will never lead to any good result, and will bring with it nothing but disappointment. For whether we essay to design in the style of the Greek, or the Roman, or in Gothic (for instance, as in the manner of the very beautiful foliage of the Early English period), however much we may admire these works, they are all things of the past, and we never can by any mode of copying or adaptation make them applicable to the nineteenth century. There is, therefore, a paramount necessity for again having constant recourse to nature as the main element of the beautiful for architectural foliage.

The best positions for foliage upon a building are in friezes, mouldings, string-courses, panels, and diapers. Indeed, it is in panels that we find the greatest development for foliage; and by panels, I include spandrels and all ornamental forms of panels. In all cases, where I could, I would keep the most important sculptured decoration as low down as possible in a building, and not throw away work by placing it too high to be properly seen. Not that I would leave the upper parts plain, but I would have the ornament of a much more simple character and arranged to suit the respective heights. There are many instances where beautiful work has been thrown away in this manner. A notable example of this is the position of the Panathenaic frieze in the Parthenon. In the first place, it must have been in a very bad light, and then the angle at which it had to be viewed was so steep and acute as to have made it an impossibility ever to see it properly. Similar errors were made in Mediæval buildings. At Lincoln it is impossible to see the sculpture of the Angel Choir as it should be seen from the ground, although one is enabled to get a better view of it by ascending into the triforium. But even when there, you still look up and find that the elaboration of the work continues as it ascends, so that when the eye reaches the bosses in the groining you discover that they are just as delicately wrought and as highly finished as those parts below which are close upon the level of the eye.

In designing foliage we have chiefly two things to study,—form, and light and shade. In form the first thing we have to decide upon is the leading or setting-out lines of the composition. And whether these consist of the scroll form, the branched, the radiating, or any other lines, they must intersect and divide the space to be filled in the same manner that the ribs and veins do the surface of a reticulated leaf. No portion must be left unprovided for, and they must harmonise with the bounding or other architectural lines of the work itself. These should be laid out upon a geometrical and somewhat regular and symmetrical plan, and we can but partially obtain any assistance for this purpose from nature. But there are some general ideas that we can gather, such as the scroll lines we see in tendrils and climbing plants, the various modes of branching, the reticulation of leaves, and the radiation of flowers. Architectural foliage should represent natural growth, and not be formed with flowers, fruit, and leaves picked and separated from life. In the Greek antefixal ornaments the growth of the plant is plainly set forth; first in the plant-leaves issuing from the ground, and then in the flower-stems growing out of them, conventionalised by spirals and crowned with the flower. In the early Gothic, as in the example from Stone Church, the scroll form grows out of the

ground at the back, and the different branches throw out leaves in a natural manner until the whole surface is covered. Crooked forms, such as we find in nature, must be altered to the tangential or angular, or a combination of both. We should remember also that upright lines represent life, hanging or drooping lines decay and death.

Having decided upon the leading lines of our stems, the next process is to clothe them with leaves, flowers, and fruit. Here it is that we may bring to our aid that variety and beauty of form with which nature supplies us so bountifully. As a general rule, all well-marked and deeply-cut lobed leaves are most applicable to carving, such as the irregular-lobed leaves of the acanthus, thistle, hawthorn, oak, and the chrysanthemum; radiating leaves, as the horse chestnut, cinque-foil, vine, and maple; or those which have separate leaflets, as the trefoil, rose, ash, and acacia. Perfectly plain leaves, such as the lilac, box, laurel, and olive, are also very valuable, where simplicity and breadth of form are required; or the more complicated can be reduced to their first simple form. Nature proceeds in this manner herself, as will be seen by the general outline of the rose-leaf, the leaflets of which retain the form of the heart-shaped leaf. Other fillings-in upon the more simple forms show how other leaves follow the same rule. In one leaf, the *Maranta*, nature has herself painted the forms of more complicated leaves upon the plain leaf.

Leaves mostly assume, more or less, the forms of the geometrical figures,—the *Laurestinus* that of the vesica. The *Cineraria Maritima* is of the same general form, but is cut into deeply-rounded lobes, of the same type as the oak. All compound leaves still retain the general forms of the more simple ones. The dock has a leaf of an oval form, which is found again in the deeply crenate-lobed leaf of the greater celandine. The heart-form is seen in the black bryony and violet, and again in the leaflets of the clover. The main ribs of the leaf of the black bryony assume very beautiful flowing forms, having a strong resemblance to the lines of the Greek-honeysuckle. In the violet, the ribs are quite different, and branch from the midrib, while in the bryony they flow gracefully from the base of the leaf where it joins the foot-stalk. The ground ivy approaches very closely to the circle, and mallow leaves are of the same general contour. The water avens, or *Herba Benedicta*, from which the Early English foliage is said to be taken, gives a very simple trefoil. The clover gives a very perfect trefoil, formed by three heart-shaped leaflets. The terminal point of the leaf of the sow-thistle gives the triangle, which is seen again in the young leaves of the ivy. The ivy assumes three typical forms during its growth: the triangle, the square or lozenge, and at length, in its full development, the pentagon. The terminal leaflet of the cow-parsnip approaches closely to the diagonal square. The five-pointed form is still retained by separate leaflets, as in the passion-flower leaf and the cinque-foil. Fig. 2

FIG. 2.

represents the hawthorn leaf, divided principally into three lobes, with other minor divisions; its most elegant state.

There are two modes of treating leaf-form. One, that of retaining the natural contour as we usually find it, more especially in older leaves, as in the maple and vine, which start off with an abrupt angle or curve from the leaf-stalk. The other mode is that as seen sometimes in young leaves, as in the hawthorn, where the leaf flows tangentially and smoothly out of the foot-stalk. Most of the conventionalised architectural foliage is in this manner, as in the Early English (Fig. 3). This difference in the

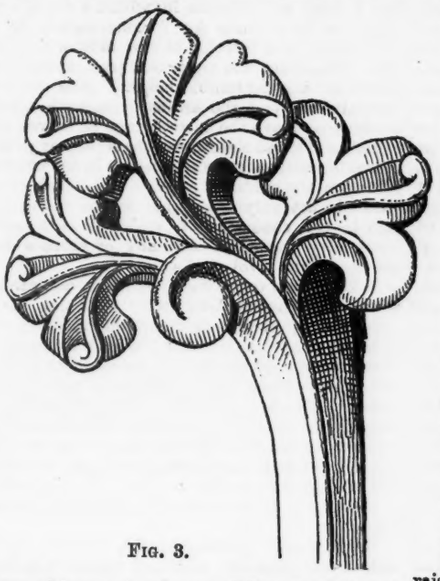

FIG. 3.

form of leaves involves a different treatment in the composition of foliage for architectural purposes.

It is not at all necessary to follow natural leaves literally,—they may be simplified; modified to make them more symmetrical, or altered to fill any particular form; their outlines may be changed by adopting various cuttings, or differently formed lobes. Fig. 4 is the type of the Greek acanthus.

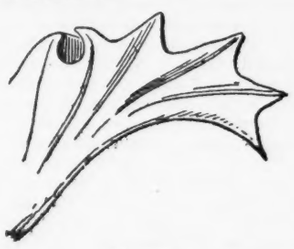

FIG. 4.

As I have already shown, Nature works upon certain broad principles, and sets out all her forms upon a plain and simple geometrical foundation. What is done with leaves may be also done with flowers, or leaves may be substituted for petals. Variety of form may also be obtained by the introduction of insects, birds, animals, and the human figure, which frequently give additional interest to the composition, with the happiest result.

The light and shade of foliage is a matter of vast importance, and one that is seldom sufficiently considered. We can obtain also but partial assistance in this study from Nature. Carvers usually overdo the shadows on the surface of leaves. If they are engaged upon Gothic work, they will tumble the surface about like a sea in a storm, after the manner of the later Gothic carving, until all beauty of outline is lost. If it is a Classic leaf they are working upon, they will groove and hollow it up until the whole surface is full of lines. In my working drawings I always indicate the modelling of the leaves, which I usually keep very simple, but it is very seldom that I can get the carver to adhere to the simplicity I aim at. When carving is placed upon a ground, as in a panel, the treatment of that ground in high relief is of the utmost importance. In low relief the carving depends more upon outline, and not so much upon light and shade, because such works are usually placed near the eye; but in high relief the case is very different: then the ground should be treated like the background of a picture, and the darkest and most intense tones be produced by it; the highest and most brilliant lights should be obtained by the convex surfaces of the foliage, and the hollows be trusted to for the half-tints. With this scale of light and shade between the darkest shadow of the ground and the brightest lights on the foliage the artist has to work much in the same manner as a painter would if he were painting in monochrome. It is, therefore, important how these are balanced and distributed. It is evident that if the shadows on the leaves are made too broad and deep, or too numerous, they must reduce the amount of light, and the value of the shadows on the ground be destroyed because they amalgamate with those on the surface.

The conventional treatment of architectural foliage depends more upon the skilful management of the light and shade than upon almost anything else. In adapting Nature, the forms of the leafage may be followed very closely, but its geometrical distribution and the treatment of the light and shade are the principal means of transforming it into conventionalised architectural ornament.

The amount of undercutting is another point which requires great consideration. Some carvers take an infinity of trouble, and laboriously undercut every part; but this is a mistake. Some portions do not require to be undercut at all, but should be made to unite and melt away into the ground itself, in order to soften the edges of some of the deepest tones, and to lose the outline of minor parts, so as to raise the value and sharpness of others. By this mode of partial undercutting, also, we see that the work is actually a part of the panel, and not laid in, as is still too common in wood-carving. Where the work, however, is much raised from the ground, it should invariably be undercut, so as to avoid thick, clumsy edges to the leaves.

We obtain many valuable hints for shadowing from the backs of natural leaves, as they are usually more convex than the fronts. The dried horse-chestnut leaf gives a very excellent suggestion for the raising the centre of the leaf surrounded by a hollow, which is often of great use in practice. Indeed, it is remarkably similar to some of the moulding of the leafage in Gothic carving. The artist also requires to study the general balance of his light and shade, so that one is not too important for the other. As a general rule, he usually errs by creating too much shade. He should remember that, in this country, we require strong contrasts, and if the work is internal, such as in a roof or groined ceiling, he can hardly make his light and shade too strong.

The nature of the material in which the enrichments are executed is another matter requiring thought. It is evident that a dull, heavy sandstone needs a very different treatment to a bright white crystalline marble, and deal has to be handled differently from oak, and box, again, differently from either. I have found that square block carving has looked remarkably well in rough, coarse-grained sandstone, and has the advantage of never getting clogged up with soot, as we so often find is the case in our large cities, and it always looks well when placed at a considerable height.

For great heights very little surface carving is necessary, and foliage will frequently look all the better for being left perfectly square and flat, so as to give, according to the distance, the utmost value to the difference between the light and shade. What is crude and unfinished when near the eye will appear bright, sharp, and sparkling when placed at the height for which a due calculation has been made for the effect intended to be produced. This is a matter of very great importance, but it is not sufficiently, and sometimes not at all, thought of. Immense labour may be often saved by properly considering this point when designing or carving ornament to be placed at a considerable elevation. One way in which the due amount of carving or intricacy of parts can be studied for various heights is this. Let the carver take his position on the ground in a position from which the enrichment can be best seen, after having set up a model at the height at which it is to be placed. Let him then with a pencil, stretched at arm's length, mark off upon it the size of the enrichment as seen from that point. If he puts this size upon paper, and begins to sketch in all the parts of his ornament as he intends carving it, he will soon perceive what to omit. If the height be considerable he will find that he cannot draw in all the work, and that he can improve the sketch by omitting half, or, perhaps, three parts of it. What is necessary in the sketch will be a guide for what is necessary in the carving.

If, for instance, we take a portion of a parsley leaf, which in nature, as you all know, is a par-

ticularly complicated one, and we determine with this to fill a small triangular panel for a position near the level of the eye. We first of all decide upon the geometrical lines upon which it is to be set out, as I have before now explained. In this case, these are simply the three lines branching from the centre to the angles of the triangle. We then proceed to follow the natural leaf in its number of divisions; but as we want to secure a greater amount of light on the surface than is possible upon the natural leaf, we give it a broader character, and adapt the outline to the form of the space to be filled, as far as we may consider necessary for the effect we desire to produce. The three leaflets we make branch from a central flower, instead of flowing from a thin foot-stalk. The flower of the parsley grows in clusters or branches, consisting of a large number of florets, but each individual floret is very small and insignificant in itself. This mode of flowering is therefore represented by a central cluster of florets; although they are here necessarily reduced to seven, instead of showing a large and indefinite number, yet the principle is the same as in the natural example. This bunch of florets is made of a globular form, so as to form the principal light, and the centre of each leaflet is hollowed into a slight concave surface to produce the half-tints, from the boundary of which the lobes flow towards their extremities with a gradual hollow curve. There is a very slight channelling of the lobes from their mid-ribs as well, but only sufficient to give a softened tone to the shades. The greatest amount and the deepest shadow is obtained from the ground, which should be of a deep convex section, so as to place the enrichment in a kind of basin.

If further simplicity be necessary for the panel from its being placed at a greater height from the eye, the leaf may be reduced in the number of its divisions, and the ribs omitted altogether, yet retaining the principle of the parsley leaf, and the light and shade may be kept the same as before. If it be necessary to carry the reduction of parts still further, to suit a yet greater elevation, it may be again simplified, while retaining the same kind of light and shade. All three examples are equally taken from the parsley, and each strictly adheres to the natural law of simplification, as shown us by Nature herself. In fact, the leaves will be found of these more simple forms if the parsley is minutely examined while the leaves are in their young state. If Nature simplifies her forms in this way we cannot be wrong in following her.

The principles upon which leaves are divided in nature are continually being intermingled, although the power of Nature is so great that each individual plant retains its own characteristic form. Not so in art. After a considerable amount of practice, and study of Nature, you will draw your leaves without immediate reference to Nature: they will be in accordance with her laws, but one form will intermingle with another, until you will scarcely know yourself for what leaf you intend it. That, however, need not distress you, as your object is not to copy Nature, but to work upon Nature's laws. Thus, your simple lilac leaf may become ternate, as in the hepatica; doubly ternate, as in the creeping crowfoot; triply ternate, as in the celery; until, when you desire it, you arrive at the intricacy of the parsley, which is still upon the triple principle of division. Nature carries out the principle even upon the same plant,—as in the ivy,—where the leaves next the flower are perfectly plain and undivided, the young leaves upon the leaf-stems are ternate, which further develope in the older leaves into a pentagonal form. The pentagonal principle is again carried on, from the ivy, through the maple, which has subdivided lobes, the vine and hop serrated, the cinque-foil, where it becomes five distinct leaflets, and to the horse-chestnut, in which it arrives at seven leaflets. So that by adopting the principle you need not necessarily follow any particular or individual leaf. This was the mode the Greeks pursued with the acanthus leaf. They did not follow the leaf literally, but embraced the principle which runs through the thistle, the holly, and other sharp-lobed leaves.

One point more I must notice before concluding, and that is the foreshortening of finials and other objects when placed at a height on a building, and the necessity of proportioning them so that they appear to the eye of the desired height when in their elevated positions. Many sculptors, I am aware, do make proper allowance for this when executing statues to be placed on the parapets and pediments of lofty buildings, but it is seldom attended to for minor objects. Some of the early French finials are very ably proportioned in this respect, and I have an example in which a due allowance has been made for foreshortening, in a finial from the interior of the lady-chapel at Ely. It is from the upper canopies, where it is placed at a considerable height. It is greatly elongated beyond the ordinary proportion, and the berries above the lower range of leaves are raised, and stand clear above them; although the modelling of the leaves is rather in excess, the ribs upon the surfaces are omitted. This elongation is not only observable in the finial, but also in the canopy itself, which is of a much more lofty proportion than any of those which are nearer the level of the eye.

In the finials to the canopies of an oak screen I have endeavoured to carry out the same principle, by arranging their height in accordance with the position they have to occupy. I have also opened them, so as to catch the light through the foliage, that they may not appear heavy. Where you have no ground, and the work is pierced, these piercings have to be considered as much as if the work was upon a ground, except that these openings are light, and the ground is dark. The light and shade of the carving must be in due proportion to the piercings.

Having now glanced rapidly at the inconsistent and improper mode of applying foliage to architecture, by overlaying it upon the work; to the literal copying of Nature in a purposeless way, by collecting a variety of flowers and different kinds of fruit, and putting them together in an indiscriminate manner, as in festoons and pendants; I have proceeded to show, to the best of my ability, that there are ample opportunities for introducing foliage into architecture, and that there are abundant materials for the purpose of the artist in Nature, which have never yet been in any great degree exhausted,—that the source is a vast and boundless one, containing a never-ending variety of beautiful form. Nature, however, is so prolific, and, if I may use the expression, so wayward in her manner, that a mere glimpse at a few leaves or flowers, or a mere picking up of a natural form here and there, is worse than useless. It is the principles that we have to search for, and these are hidden under every variety of form and manner. We can no more detect her secrets by a mere casual examination of her outside form, than a burglar can reach the contents of a strong room by merely examining the outward form of a lock. There is only one way, and that is to sit down patiently to draw one form after another, until we at length arrive at a complete scale of all Nature's variety of form,—of her regularity and irregularity,—of her geometrical uniformity, and of her apparent utter want of plan or design in her manner of growth. We see that throughout all her works she never by any chance imitates herself,—for no two leaves, even upon the same branch, were ever yet found precisely alike,—and yet the same forms are continually running throughout nature, until we may almost imagine that Nature does nothing more than reproduce herself, and the casual observer can see but little variety in all her forms.

It will be discovered also that whether we examine natural forms in this country, or whether we obtain them from the most distant quarters of the earth, we can see nothing new, nothing fresh; from whatever country we obtain them, we find that Nature is still at work upon her old forms,—at one time on a gigantic scale, at another upon a microscopic one, but when we search below the surface, we arrive at certain art principles upon which Nature works, and which alone are of any worth to the true artist. I believe that there is more truth in the words that the poet wrote, than he himself knew, when he said:—

> "All nature is but art, unknown to thee;
> All chance, direction which thou canst not see
> All discord, harmony not understood;
> All partial evil, universal good."

[Of the discussion which followed the reading of the paper we publish a report on another page.]

Excavations are being made among the ruins of the ancient city of Tirnova, and they are yielding interesting results. Part of an old chapel has been exposed; its frescoes, which were comparatively uninjured, are said to belong to the tenth century.

JAPANESE DRAMATIC ART IN EUROPE.

Nor least interesting among the many strange effects of this nineteenth century has been the revolutionary manner in which the whole history, politics, art, and literature of Japan have, within the last generation, so freely admitted, after centuries of tranquillity, the modern influence of European civilisation. In exchange for which advantages we Westerns have as freely availed ourselves, to the delight of the Japanese, of the whole field of archaic art which only a few years since was confounded in the minds of the many with perhaps the older work of the Chinese. Thanks, however, to the flood of information poured upon us within the last few years by the works of travellers of all nations (the last of which works, by a lady, "Child-life in Japan," seems to have been insufficiently praised), we now know probably as much as can be known concerning the Japanese, and this knowledge comes to us together with the certainty of the sad fact that European civilisation is already working its influence for evil on the art of the nation.

At a time when so many of the products of Japanese industry are familiar to the world throughout Europe and America,—we hesitate to say, thanks to the universal exhibitions of the last few years, and the energy of the Japanese,—a new native importation comes to us from the Empire of the Rising Sun.

In inverted sequence, a Europeanised Japanese drama has for some time past been impatiently expected by the Parisian artistic world. Carefully, however, as this piece has been prepared, it is alone in its novelty, we cannot help confessing, that it can vie with the genuineness, grace, and beauty of the troupes of superbly-dressed Japanese conjurors and acrobats who, within the last few years, have been threatening to eclipse the time-honoured marvels which, for generations, we have been accustomed to enjoy in our hippodromes.

Be this as it may, within a short time the Theâtre de la Gaieté at Paris has met with a genuinely artistic and literary success in a Japanese drama by a Japanese author (one of those many Europeanised gentlemen we so often see on the Boulevards or in Regent-street), and produced with the most scrupulous care, so we learn from the *République Française*, as regards costume and scenery.*

Mdlle. Marie Dumas, whose taste and zeal are well known to the theatrical world, after having brought before the Parisian public the Greek, Roman, English, Russian, German, Italian, Spanish, and Danish drama, has now made known to the European world the interesting and archaic drama of Japan. To prepare the public for an exhibition of so novel a character, Mdlle. Dumas some while since called in the aid of the well-known art critic, M. Philippe Burty, who for more than fifteen years has studied with care the art, the industry, and literature of the Empire of the Rising Sun. The lecture he then delivered, and which evidently interested the public, prepared the way to the proper understanding of the Japanese dramatic art, so different in its rules from our Western art.

The Japanese theatres, according to M. Burty, are built specially with a view to meet native customs. The spectators arrive on the ground at sunrise and seat themselves in the boxes, and here they sit, eat, drink, chat, and smoke. The representation lasts till the evening, often resumed the following day, and in some cases even the day after. It is not difficult to imagine that a dramatic entertainment offered under such conditions can scarcely allow of rapid actions,—such analyses or studies of character as we are accustomed to find in Plautus, in Calderon, Molière, or Shakspeare.

To the general outline of some historical incident which has almost always for basis the vengeance of murder or some insult, are grafted a number of scenes which are more or less connected with the plot, but which, taken separately, form in themselves complete tableaux. Some of Shakspeare's plays can alone be instanced as giving an idea of this process, though in very much shorter scenes.

In addition to this national drama, acted by men and young boys dressed as women, there are others exclusively occupied by women; others, again, where the actors only gesticulate,

* "Tamato," a drama by Masana Maida, suggested by a national Japanese legend.

while the words are read by another person, who, according to the part, changes his voice, which, in many cases, is very remarkable.

On the stage, to which there are two entrances in planking which traverses the two sides of the house, a singular blending of realism and conventionality is to be seen. The scenes are changed with extreme rapidity, and by means of a simple but ingenious mechanism; while the actors preserve their relative attitudes for several minutes, lighted by a servant who walks round them with a torch fixed at the end of a bamboo cane. Or, again, the death agonies of a hero who has committed suicide, last often for a quarter of an hour without a groan or a spasm being neglected, while at his side another hero, already dead and cold, having died to the satisfaction of his audience, rises to his legs and quietly gains the side-scenes, strikingly reminding one of the amusing Tilbury Fort scene in the "Critic."

In the course of his lecture M. Burty gave the analysis of a characteristic Japanese Vaudeville farce. A police officer arrests three men who, contrary to the laws, he finds playing at cards in the open street. They beg him not to take them before the justice; he relents, for Japanese policemen are human, and eventually plays with his prisoners. At first he gains, always the old story, then finally loses everything,—his money, of course, his hat, his coat, down to his official sabre. The governor, who happens to pass on a round of inspection, finds the subordinate in this sad plight, and instantly orders him to disembowel himself, a sentence he immediately proceeds to carry out with a minuteness and reality which call down on him thunders of applause.

And now for some idea of the native drama of "Tamato," which, be it remembered, is a translation, and interpreted, not by Japanese artists unfortunately, but by Parisian actors.

The curtain rises on the interior of a tea-house. A charming child dances a stately measure, while a companion marks time on a guitar, and sings. Some Samurais are drinking, and at the same time arrange the detail of a plot, while the spies of the prince who has dispossessed the rebels of their homes, narrowly observe them. Tossiho, the chief of the conspirators, feigns drunkenness, and is carried off to his house. His friends are at first deceived by this *ruse*; they visit him by night to obtain further information. He receives them, and in a style far beyond a tragedian of the Coburg Theatre in its best days, his friends inform him that the hour of vengeance has at last come, and Masana, one of the conspirators, is appointed to carry to a distant city the signal for revolt.

But Masana delays on his road in the arms of his young wife, and in the embrace of his mother. The fatal hour has struck, and he has forgotten his mission. The other conspirators believe him to be at his destination. They go to the house of his mother to bring her news of the plot, when they learn that her son is still there; they load him with abuse, at which Masana is on the point of killing himself, when his mother stays his hand. "Save the honour of the family!" she cries; "it is I who ought to die," and stabbing herself to the heart, she expires.

This piece, so simple in its action, yet so pathetic in its details, without ever verging on the brink of declamation, produced no little effect on the audience, many of whom laughed and cried, as they rarely do in our modern plays. The *mise en scène* was as brilliant as a page of any of the numerous Japanese picture-books which have been so much admired. The costumes, made of the most sumptuous and lightest stuffs, recalled all the beauty and grace of the old Japanese society.

As for the interpretation of this novel piece by Mdlle. Marie Dumas and the company under her management, it seems to have met with general satisfaction, the costumes especially evoking the admiration of the public; in fact, if we are to believe competent critics in regard to this new Japanese drama, never since the days when Macready mounted his "Acis and Galatea" with such care, assisted as he was by Stanfield and Roberts, or Charles Kean produced his sequent series of historical plays, has the stage been beautified with costumes so rich, accessories so costly, and *mise en scène* so closely approaching reality. The piece, in fact, promises to rival in popularity the Parisian realistic novelty, the "Assommoir," which we hear secured to the manager in the course of the first month the large sum of 183,000 francs, and which we know is shortly to appear both in New York and London.*

PRINSEP'S "INDIA."

UNDER the rather high-sounding title of "Imperial India," Mr. Val. Prinsep has made an amusing and very readable book† out of the record of his experiences during his recent visit to India to collect materials for a large picture commemorative of the formal assumption of the Imperial title in India by our sovereign. In despite of the title, the book is not meant very seriously, and any one who takes it up to get "useful information" will be (shall we say agreeably?) disappointed. This, from a certain point of view, is of course nothing against the book. The author was not writing a history of India, nor a critical review of Indian society, but lively accounts of the places and people he saw during a tour made under circumstances very advantageous for introducing him to experiences out of the way of most casual visitors to India. His object being chiefly to paint rajahs who were present on the occasion commemorated, of course he saw a good deal of the native potentates in private, and describes their appearance, manners, habits, and surroundings with great frankness and particularity; and we have no doubt the book has fulfilled its purpose of amusing many people considerably, including its author. We might, perhaps, have wished for a little more of the impressions of nature and art which one would have expected would have forced themselves even upon a "be-rajahed" artist; but perhaps Mr. Prinsep regards that as "shop"; and as to that he was at liberty, no doubt, to please himself, and to mention what did interest him rather than what he or others thought ought to interest him. We fear, however, that good taste must pronounce the author to be, in print at all events, somewhat too much of a "rattle" even for this not very serious rôle; not only is he, as Lamb said of some one, "f-f-f-ull of f-f-f-un," but we fear, in his contempt for the dull sobrieties of bookmaking, he has run into the other extreme of something approaching slang. It is not considered, for instance, very "good form" to speak, even in conversation, of persons of eminent position in society as "swells"; but to print such a phrase over and over again as the general classifying term for the native dignitaries of the country, and that in a book likely to circulate in India, seems very bad taste. There are some other expressions in the book which would do well enough, perhaps, in a talk in the smoking-room; but when a man puts things into print, even with no desire beyond amusing, he would do well to take to heart one of the maxims of Polonius—

> "Be thou familiar, but by no means vulgar."

What is rather amusing, certainly, is that Mr. Prinsep seems, if we are to judge from his own account, to have treated rajahs much in the same style in which he writes of them, and to have made himself at home with them everywhere. The long connexion of his family with India, of course, enabled him the better to do this, or to find out how to do it. He regards the rajahs as made for his picture: at the same time, he is very bitter against them for their want of punctuality in regard to their appointments for sittings, or their excess of punctuality in leaving, which comes to nearly the same thing. The Viceroy imagined, apparently, that if Mr. Prinsep was at the ceremony he could, with that opportunity and with short sittings during the ensuing week, when most of those concerned would still be in the neighbourhood, get all he required for his picture before the visitors had dispersed. We should have expected Lord Lytton to have had clearer ideas as to the work necessary for a big picture; it is needless to say that did not satisfy Mr. Prinsep. There was, therefore, nothing for it but, as he puts it, "to track the sajah to his lair," and there seize and paint him; and this succession of unpunctual rajahs in hot presence-chambers seems to have (not unnaturally) tried the artist's temper a good deal. His pleasure in the contemplation of the building and gardens of the Taj Mahal apparently derived its keenest edge from its contrast with the circumstances of his daily work. "The smell of roses instead of betel-nuts and frowzy rajahs; the wild shrieks of the kite, the cooing of doves instead of the noise of tom-toms, or the gurgle of hubble-bubbles. Nature, in fact, and Art. Ah me! in a day or two I must 'rajahfy' again." This comes nearest to being pathetic of any passages that we have noticed in the book. It is interesting to note that while the author was painting in the gardens, he noticed that hundreds of our soldiers tramped in to see "one of the wonders of the world," as one of them called it. One man, pointing to some scaffolding put up for repairs round one of the minarets, said, "It reminds me, Bill, of Lichfield Cathedral: they was always a-doing some repairs to that, I remember." The author's American friend said he should like to have it in New York to show, at fifty cents a head. Such are the various ways in which one object affects different minds.

Some other particulars about other buildings at Agra have architectural or artistic interest. One room in the palace was decorated with ornamental flowers painted on marble. But "the hand of the English engineer has been here." One corner of the room was repainted at the time of the Prince of Wales's visit, to show H.R.H. what it was like when new. "Ye gods, what a sight!—The most tinselly gold, the crudest reds and yellows, the coarsest possible work. If this is what it was when it was new, let us have no more like it; let us, at least, have what is picturesque and beautiful to delight the eye as long as there remains the trace of a pattern. Let us keep up the building, and keep out the rain. But for Heaven's sake, O ye higher powers who direct such matters, spare us the decorations of the unartistic and the wild imaginings of the engineer, which are not only horrible in themselves, but replace the beautiful traces of former art." Truly, we sympathise with Mr. Prinsep here. An engineer in such a building,—an English engineer, at all events,—is a more fearful wild-fowl than a lion among the ladies. Touching upon another palace in Agra fort, the author says it has been restored much better, the restoration being merely that of masonry detail: "to restore a building stone for stone, when there is a pattern to go by, is much easier than to restore a decoration, for colour is more subtle than stone." So it is, perhaps, but it does not seem to have occurred to Mr. Prinsep that the eye of the architect might possibly find just as much to blame in the masonic restoration as the eye of the painter found in the painted restoration. Painters always think architecture is such easy work! At the palace of Akbar "the ruins are superb. Red sandstone, almost as good as marble, is the material universally employed, and not a bit of wood for floor, rafter, or roof, have I found. This red sandstone takes a wonderful finish, and seems very easy to work. Court after court, pavilion after pavilion, have I seen, all wonderfully wrought over with ingenious and elaborate patterns, and all as fresh and sharp in detail as the day they were done; only here and there it has been found necessary to build a prop to support the great weight of all this stone on the roof." At the Taj-Mahal the author saw the water run into the great tanks (which had recently been left empty on account of leakage) as a special courtesy to himself on the part of the gentleman who looks after the garden. "The long reflection of the white marble much improves the magic of the effect," as one can well imagine. The gardens are particularly well managed. "There are two rose gardens and lawns quite English, with good turf"; and a tree is shown which is believed to have been flourishing (a cotton tree) before the Taj was built.

Their highnesses of India seem to have found sitting for their portraits a great bore, even with the prospect of immortality in Mr. Prinsep's picture. One of them said it was worse than the hardest day's *pooja* (*i.e.*, says the author, "praying") he had ever done, and added half good humouredly that "he got nothing for it." The capability of understanding the process seems to have been very variously developed. Some sitters who were taken in profile could not by any argument be made to understand why they should be painted with only one eye, and seem to have half thought there was a covert insult intended. Others were very liberal in their praise, when the first stages of the study were got over: "I did not think I should like it

* In our next, as already announced, we shall publish a description of a theatre in Japan, with plans and views, both internal and external.

† Imperial India: an Artist's Journals. Illustrated by numerous Sketches taken at the Courts of the principal Chiefs in India. By Val. C. Prinsep. London: Chapman & Hall.

at first, but now I like it only too well," was the expression in one case. The ladies seem to have been the most agreeable to deal with (where are they not?). H. H. Jumna Bae, the Maharanee regent of Baroda, had only her sweetest smiles for the artist, accompanied by the expression of a willingness to sit as long as he liked. The author has shown his appreciation by painting her picture in words, as well as by the engraving in the book. She was a tall slender woman, still very pretty (the Maharanee is about twenty-five, it is understood; which is middle-age, we suppose, for an Indian lady). "She had on a dark blue muslin *sarree*, through which one could distinctly see her olive brown skin. Indeed, to the waist she was virtually naked, except that across her breasts she wore a rather coquettish red and gold embroidered staylette. Her hands and feet are unusually beautiful, even in this land of lovely extremities. Both are arranged with the greatest care; every nail is carefully marked, where the flesh ceases to adhere, with a semicircle of henna; and on each great toe she has two rings, and one on each little toe. Unlike the other women I have seen in India, her eyes are untouched with black; she wears no nose-ring; only in the centre of her forehead there is a beauty mark, a kind of tattoo, of delicate blue, and on her cheek and chin a single spot of the same colour; and her jewelry, though handsome, is not garish or vulgar." The lady thus sympathetically described is shown in the engraving seated with knees up on a chair, her feet resting on its front edge, the disposal of the voluminous drapery rendering the attitude far more dignified and graceful than one could have supposed possible. As depicted here, she is certainly a very pleasing-looking woman, and looks a thorough lady in spite of her attitude. Her little daughter, of five years old, Tara Bae, is, if the sketch of her on page 325 is faithful, as sweet-looking a little maiden as could anywhere be found.

It is interesting to have the opinion of an English painter on a "nautch." The author is anxious to disabuse his English readers of the idea that there is anything improper about the entertainment. We surmise that there are nautches and nautches; certainly the one he describes and illustrates seems to have been a very pretty entertainment, and as harmless as anything well could have been. One hundred women danced round in a stately measure in a garden by torchlight, the light glittering all the time on bangles, armlets, and anklets. Every now and then the great drum in the centre gave a boom, when the women all threw up their arms together; and in the middle of all this, the moon rose behind the dark masses of trees in the garden. We can easily imagine that the author was, as he observes, "never more *fetched*." He says he should like to make a picture of it. We very much hope he will, and have no doubt we shall also be "fetched."

The various portraits of the artist's sitters, chiefly rajahs, which embellish the book, are, as one would expect in an artist's book, admirably engraved, and exceedingly interesting from the picturesqueness of the costumes and the admirable rendering of personal character and manner. A very pretty one also is the portrait of "Begoo, a Kashmerian nautch-girl," whom some of us have already noted on the walls of the last Royal Academy exhibition.

AN APPEAL.

ARCHITECTS' BENEVOLENT SOCIETY.

SIR,—In consequence of Mr. Mocatta's (the chairman) remarks at the recent general meeting of the Society (see *Builder*, March 15th, 1879, page 293), urging the necessity of increasing the amount of the invested capital on account of our frequently being unable to deal with all the distressing cases coming before the Council in a way adequate to the needs and deserts of the applicants, I have had a letter from one who is serving on our Council, and who knows the good work done there, offering to make a donation to the Society of 100*l.*, if fourteen other gentlemen can be found to do the like within three months, so as to raise our funded stock to 5,000*l.*

May I ask the favour of your giving this fact publicity in the columns of your paper?

J. GOLDICUTT TURNER, Hon. Sec.

Albert Hall.—In order to meet the wishes of H.R.H. the Prince of Wales, who has been pleased to signify his intention of being present, the date of the lecture on the electric light, and exhibition of electric lighting apparatus, has been changed from Thursday, 1st May, to Wednesday, the 7th May.

A GLANCE AT ST. PAUL'S AND ITS GARDEN.

So much is doing in and about the great cathedral church of St. Paul,—additions and alterations, if not restorations, both materially and ornamentally, that it may be of some interest to glance for a moment into the past of it, at its early beginnings, and first building. We have good means of doing this, both from knowledge of the great church itself, and from the notes about it in the *Parentalia*, or memoirs of Wren when surveyor-general of the royal buildings. These memoirs were compiled by his son, Christopher, from a large number of original papers and records. It may be noted, in passing, that this *Parentalia* contains not only the records of Wren's life and doings, but is a family history, and has in it memorials of Matthew Wren, bishop of Ely, Christopher Wren, dean of Windsor, as well as of the great architect himself; also collections of records and original papers, and affords an interestiug insight into the times in which he lived and worked, and into the surroundings and motives of those who lived and worked with him. Our present purpose is to note a few things concerning the building and designing of St. Paul's, and to perhaps hint at what Wren would have done had he himself completed his work, or had he, in this our day, so different from his own, had the same work to do. The "garden" now in course of forming round the great church must needs call public attention to it and to its specialities.

It is curious to note in the first place how very little Wren thought of the old Gothic cathedral, for when making an accurate survey of the old church, "even to inches," he takes note of the "inaccuracies" of the Gothic builders, and was astonished to find how negligent they had been. They seemed to have been Normans. Everything, almost, seems to have been done wrong, and he fails to note what would appear to have been but too evident, the infinite inventiveness of the Gothic builders, and the strange aspect of the whole building, especially as surrounded as it then was, by the quaint streets and narrow ways of the antique town. They were never true, he remarks, in their levels, and the building was found to consist in great part of old materials, which the founder, Mauritius, Bishop of London, "had procured from William I., out of the ruins of the Palatine Tower." The great pillars were without any "graceful manner," and the thick walls were "without judgment." Cornices they could not have, for want of larger stones. Altogether, Wren could not be said to have found anything in or about the old Gothic cathedral to go by or to inspire him, nor did he learn anything by the study of it. All this careful survey and planning was made in 1666, some months before the Great Fire, which provided Wren with his so many opportunities.

There is much, very much more, to be noted here, in this, Wren's first survey of St. Paul's, and in his efforts to patch up the old cathedral, but we can hardly note them all, curious as they are. All his careful work, so far, was needless, consequent on the Great Fire, which necessitated the building a new cathedral altogether. What is here more to the present purpose is the laying out of the new streets and ways round and about St. Paul's more in harmony with it and the style of architecture it was to be built in, and better fitted to the times in which Wren himself lived and worked.

We must not dwell on the first difficulty, viz., as to funds,—"shortness of funds,"—which compelled the Commissioners, in their directions to Wren, to order him to "contrive a fabrick of moderate bulk, but of good proportion, a convenient quire, with vestibule and porticos, and with a dome conspicuous above the houses." A long body, with aisles, was thought impertinent. But even this did not please all, for it was not thought stately enough, many contending that for the honour of the nation and the city of London, such a church ought not to be exceeded in magnificence by any church in Europe! Hence it was that Wren merely for "discourse sake," and to satisfy the world, "drew more sketches" larger and more beautiful and more conformable to the best style of the Greek and Roman architectures. But even these did not satisfy, and Wren then at last, and to begin, turned his thoughts to the cathedral form, as it was termed, but so rectified as to reconcile as nearly as possible the Gothic to "a better manner of architecture," with a cupola, and above that, instead of a lantern, a lofty spire. It was to have two large porticos. Thus was the work of the new Cathedral of St. Paul at last determined on, his Majesty King Charles approving all that was proposed. We now see the result, imperfect though it be, of what was then so carefully thought out, and in part executed.

But our more immediate object here is to make note of the proposed laying-out of the streets and ways immediately round and about St. Paul's, and to call a moment's attention to the planning and architectural character of the spot on which the cathedral stands. It is curious to note how different all this now is from that which it would have been had Wren, as architect, had his own way, and completed his work. The old line of streets and ways would have totally disappeared, and no vestige of middle-age London, or recollection of it, could have been. But as things are now, at the present moment, the ground is thickly built upon, and the narrow and even picturesque street,—Paternoster-row,—is, indeed, a bit of old London.

Now, this is all very curious when we come to consider it, for Wren, with his Greek and Roman proclivities, and his dislike of Gothic, was compelled to work, more or less, in a Gothic way. His cathedral stands on a Gothic plan, and the very iron railings round and about it, —which, by the way, are very admirably designed and wrought, and have quite an architectural character, — are, as it were, the boundary lines of a Gothic structure, so irregular on plan, and even awkward, are the lines they make round the building, not following the lines of the walls of it, and now ending as they do at the west front, or their line, rather, continued by the low marble posts or pedestals, which hardly seem to form a part of the general plan of the churchyard in which the cathedral stands. How far the garden will help all this remains to be seen. A difficult problem there can be no doubt, and one which might have puzzled the architect himself. Had Wren completed his work in his own way he would, doubtless, have formed round his cathedral church a regularly-drawn boundary line, enclosing, perhaps, a small Campo Santo, that most appropriate and impressive of cathedral or churchyard inclosures.

Wren's cathedral, in his own day, did not satisfy *all*, and nought that even he could do, would or could have done so. Nowadays the difficulties are certainly not less than they then were, though they are different in kind. St. Paul's has undergone not a few alterations, subtractions, and additions, some of them not a little surprising. The whole interior stonework was but a few years ago painted, three or four times in good oil colour, thus destroying the natural colour and impressiveness and truthfulness of the interior, as we thought. This has since happily been all of it carefully cleaned away, and it is in the future contemplated to "decorate," or adorn, if that be a better word, the whole interior. To help this it is that every now and then, as occasion offers, a new coloured glass window is added. These added windows are, as a matter of course, if not of absolute necessity, the productions of some eminent firm of glass-painters and church-decorators. We would ask,—will such windows ever, and when, in the distant future, be the production of a painter? Michelangelo was a painter, and he painted with his own strong arm and hand the vaulted roof of the Sistine. Raffaelle was a painter, and he drew and painted the series of frescoes so familiar to Academy students. Correggio was a painter, and all know what he did. Indeed, what would the world of art do without these evidences of the powers of mind and hand of these men, and such as these, not to speak at present of more archaic and earlier doings and efforts, humbler may be, but not less true and wonderful, from the days of old Egypt down to the present hour. We have but to go far enough for it. More than one suggestion offers itself to us here, but, forbearing with difficulty details, we can but imagine what the effect of one of the aisles of St. Paul's would be, supposing nought decorative were done but the fair face of the stonework being left to time and nature to colour anew each year, the glass-filled windows alone were painted,—we say not how,—by a painter, the said painting being veritable work, as the same extent of canvas would be if to be exhibited at the Royal Academy Show on a first Monday in May. Is work such as this possible in these days?—and if not, why not? How much is there to be done yet, or rather begun, in St. Paul's Cathedral, both interiorly and exteriorly? How

many lessons would such work read, not alone to artists and workmen, but to the public, who look only, as things now are, at results?

MYCENÆ.

AT no period have the buried treasures of antiquity been brought to light in greater abundance than has been the case within the past few years. While the eighteenth century raised the cities of Pompeii and Herculaneum out of their ashes, and restored them once more to the light of day, the nineteenth century has rediscovered the great cities of Assyria, and has thrown a flood of light on ancient Greek and Roman history. Among the most striking additions which archæological research has made to our knowledge of the ancient classical nations of Europe, the results already achieved, and the results now in process of achievement under the guidance of Dr. Schliemann, at Ilium and at Mycenæ, or under his fellow countrymen who are labouring at Olympia, will ever hold a most important place.

Respecting the explorations at Mycenæ, Professor Adler recently delivered in Berlin an address containing some interesting remarks. In Mycenæ, he observed, we found a rare wealth of architectural remains which are intimately associated with certain mythical stories. In ancient Thebes, conflagrations and earthquakes had destroyed the monuments of its ancient civilisation. Of Orchomenos there is nothing left beyond a dozen blocks of stone, the last remains of the so-called Ninyatic treasury. But the fate of Mycenæ had been more fortunate. Of its great antiquity every reader of Greek history was aware. Mycenæ was already old at the period when we first learnt anything of ancient Greece. In the age of Pausanias there was nothing beyond ruins at Mycenæ. Fortunately, the ruins and remains of its ancient glory had not been disturbed by later generations. How long these remains had stood before they fell into ruins we do not know. There we still found the strong walls encircling and supporting the two entrances to the royal stronghold, one of which entrances was the well-known "Lion Gate." At this spot we were confronted by prodigious blocks of Cyclopean masonry, here standing in regular lines and rows, there isolated and single. Where they were wanting it was possible nevertheless still to distinguish the foundations, their presence being generally indicated by a very scanty growth of grass. In Mycenæ all the phases of the ancient Achæan architecture are represented. But for every relic still left, we had an enigma to solve.

There was no difficulty in understanding the natural beauties presented at this spot. From this abode of sovereigns, from this acropolis, we looked down upon the charming landscape of Argos. In the remote distance we perceived the sea, which was for the most part tranquil. On the beach to the right lay Mylæ, with its copious waters, while on the left was Nauplia. Further on stretched mountain after mountain, each rivalling the other in beauty. It was, however, the stronghold itself which had most interest for us, awakening in us, as it did, splendid memories of the time of the Argives, and of the house of Perseus, from which dominion passed into the hands of the descendants of Pelops. Its splendour endured but for a short period. After Agamemnon came the Doric immigration, and Mycenæ became a lifeless city. Down to the fifth century it preserved its independence. A short time after this it began to enjoy its long and profound slumber, its sleep of death.

Although within the past century the interest felt in these places by classical archæologists, and the frequency with which they were visited, began to increase, it was some time before any progress was made in their investigation. It was only the spade that could render effectual assistance here. Dr. Schliemann took up the task of showing that the old Hellenic heroes mentioned in the poems of Homer, were not mere poetical fictions, but historical characters; and this he did by excavating the various localities mentioned by Homer. He commenced with Ithaca, but without any very satisfactory results. Then he went to Troy, and there discovered those remains which he has denominated the treasure of Priam.

Encouraged by this success, he now turned with all the ardour of his nature to Mycenæ, and in August, 1876, he began to execute his plan of excavating every place which Pausanias had seen, including the house of Atreus, of Agamemnon, and of Cassandra. He then thought it his duty to seek for the tombs outside Mycenæ. After a preliminary *reconnaissance* in 1874, the fact was made out that the greatest depth of rubbish, a depth of 8 mètres, was in a part of the so-called treasury. After a short time Dr. Schliemann's exertions were crowned with the most splendid success. Within the suspected limits he found several tombstones, and at last he discovered five rocky basins, while a sixth was turned up after his departure. The delight so widely felt at this success found expression in numerous telegrams, and was thoroughly well founded. An abundance of gold articles, weapons, and ornaments were brought to light; and although they were often badly preserved, and did not answer to our ideas of the goldsmiths' art in ancient times, they, nevertheless, formed a discovery of the very first order of importance.

In these objects Dr. Schliemann considered that he had acquired not merely a number of treasures of antiquity in general, but he was persuaded he had found the treasure of Agamemnon in particular. Dr. Schliemann broke off his work here too early. Fortunately, however, Dr. Davis, who had been appointed by the Greek Government as Dr. Schliemann's colleague, remained behind and continued the excavations, which led him to the discovery of the sixth tomb. The chief question we have now to decide is this,—Are the tombs Dr. Schliemann has found really the tombs of the house of Atreus or not? This can only receive a reply when we have carried out a thorough analytical examination of the ancient architectural remains themselves.

Mycenæ consists of two fortified hills, with an upper castle and a lower castle, united by the saddle of the two hills. That which is usually regarded as Agamemnon's grave is a vaulted cupola of monumental strictness of design, the construction of which is in a high degree surprising, and which, in point of massive grandeur, can only be compared to the structures raised by the Pharaohs. The building rises up in the form of thirty-two circles, one placed upon another. In the doors we see supporting-beams of enormous weight. One block alone is calculated to weigh 2,200 cwt., which is three times heavier than any stone which has ever been used in any building in Berlin.

The approach is through a passage, 36 mètres long and 6 mètres broad, walled up on both sides. The entrance itself is formed by a gate flanked by two columns and adorned with a wreathed cornice. One peculiar phenomenon is that the shafts of the columns grow broader upwards. The entire architectonic arrangement and the internal bronze decoration point without any doubt to Carian models. The second vault is destitute of the precious decorations such as are found in the first; but the exterior is similar. Both structures make so imposing an impression on the beholder that they announce the power of the ruling race which built them more eloquently than could be effected either by song or story.

What, then, we must now ask, was the object of these Greek structures? They were treasure-houses, says one party. A second party affirms that they were tombs. Others see in them fountain-houses, and others again round temples. Up to the present time there have been eleven of these globular structures found in various localities in Greece,—a proof that they form a distinct phase in Greek architecture. As regards the theories put forth respecting their purpose we may without hesitation reject the two last above mentioned. Everything, too, is against their having been treasure-houses.

In fact, there is no longer any doubt that in these structures we have to do with mausoleums, with the tombs of princes. Every trait tells us that this was the exclusive programme of the architect,—the dark vault, the noble approach, and the hillock in front of it. This is the well-known type of the tombs of princes. On close examination, however, we discover good ground to ascribe the two kinds of tombs to two different epochs. It may be assumed that the one is a completer and more developed form of the other. The column at the "Lion Gate" symbolises the ruling house, the lions being its guardians, so that the ornamentation may be taken to mean—"The king's tomb stands under the protection of the gods." The lions in relief, the Lion Gate, and the vault belong to one and the same epoch. Taken in connexion with old Greek story we may draw the conclusion that the first of the two buildings belonged to the first dynasty, and the more developed structure to the second dynasty of sovereigns. The first tomb may be that of Atreus, the second that of Agamemnon.*

Of greater importance, however, than the settlement of this question is the fact that out of the bosom of the Hellenic soil proofs have come to light, showing that centuries of Greek history preceded the rise of the Ionic and Doric orders of architecture. The architectural art of Mycenæ had its original home in Asia Minor, but it was unable to maintain its ground against the Doric. The bold attempt at the cupola with square blocks of stone masonry was preceded by earlier attempts in brick. But this latter kind of building was at home in Sardis, in Western Asia Minor; and it seems very probable that the art of building in brick was brought over thence to Mycenæ, and was subsequently superseded in the latter locality by stone masonry. Another point about these art-treasures unearthed by Dr. Schliemann is that they all agree in bearing a certain Egyptian character, and point to a time when the west and east coast were under Carian dominion.

From this brief glance at the monuments and times here referred to, it is clear that a part of the older Greek civilisation has been preserved for us, and we may confidently assert that archæological and architectural science has yet much to learn from the western portions of Asia Minor, as well as from Greece itself.

THE ELECTRIC LIGHT ON THE HOLBORN VIADUCT.

THE announcement of the fact that the City Commissioners of Sewers have resolved not to continue the electric lighting of the Holborn Viaduct will not be very much of a surprise to those of our readers who may have carried out for themselves the train of thought suggested in our recent articles on the cost of light, and on the fallacy of expecting to obtain a costless power (*Builder*, Nos. 1,873, 1,875). The broad facts that work means cost, and that when work has already been partly done by the subtle chemistry of nature, and by the slow operation of cosmical forces for many thousands of years, it is usually cheaper to take advantage of the result than to attempt to begin at the beginning for ourselves, have always seemed to us calculated to modify the expectations entertained by some persons of the financial results of the very elegant inventions of MM. Gramme, Jablochkoff, and a large circle of able and deserving inventors. Do what we will, we come back to coal as the source of our motive power. And hitherto it has proved more advantageous to apply directly the luminiferous properties of natural minerals to the production of light than to apply their calorific, that is to say their motor, properties in the production of light in a less direct mode than by the simple process of combustion. We are bound to add, however, that the cost, as set forth by Mr. Haywood, has certainly much surprised us in the face of some considerable experiments which are being made under our own eyes, and concerning which there will be more to say hereafter.

The sum of the facts reported by Mr. Haywood, on which the Commissioners of Sewers have come to their decision, is briefly as follows. Sixteen electric lights were lighted, for sixty-four nights, from sunset to midnight, giving an average of seven hours per night. The cost was 5*l.* per night, which comes to a little over 10d. per light per hour. These lights replaced eighty-four gas-lamps, some of which were lighted after midnight. The cost of the gas-lamps per hour was but little over one farthing each. The cost of electric lighting for a year, at these rates, would be 3,072*l.*, and that of gaslighting, for the same time, 419*l.*, making the cost of the former seven times and a half that of the latter. Mr. Haywood, however, estimates the illuminating power of the electric source of light at about seven times that of gas. But the question of the number of the centres or distinct *foci* of illumination, here comes in; and it is one of essential, and indeed of controlling, importance. The efficiency of the electric light increases,—that is to say, its relative cost decreases,—in proportion to the intensity of the focal points. Indeed, it is said by some writers on the subject that the in-

* It will be understood that we are simply reporting Dr. Adler

crease in the illuminative power is in proportion to the square of the work done in producing it; so that one lamp of 100 carcel power would emit as much light as 100 lamps of ten carcel power each. Whether this be a correct estimate or not, we have in the present instance the fact, that the foci of illumination supplied by the street lamps are very nearly six times as numerous as those of the electric lamps. Taking this, for the sake of round numbers, to be the exact proportion, each street-lamp has to illuminate only one-sixth of the area lighted by each electric lamp. The light given, at the extreme edge of its illuminated area, by the former, would thus be thirty-six times more, as compared to the light actually produced, than that shed by the electric light, at its extreme limit of area. Thus to produce an equable illumination, in the portions of area most distant from the lamps, a sevenfold intensity would be only one-fifth of that required. And this is speaking of the utilised light, apart from any loss by opal globes or by repeated reflections. This photometric disadvantage of few points of light does not, of course, apply to such cases as lighthouse beams, where the intensity cannot be too great. But for domestic use, and for street-lighting, the human eye needs protection against too great intensity. No means have been hitherto discovered of producing the electric light in quantity rather than in tension. If that could be done, as is the case in other branches of electric science, the conditions of the problem would be altogether altered. But it is feared that a certain electric tension, and a certain minimum intensity of light, are conditions of the production of the light at all. The force required to produce it is great, and it is, we apprehend, a force of high tension. When the Gramme machines are first made to revolve, they do so with perfect ease; and it would seem as if the slightest motive power would suffice to keep them in very rapid revolution. But the moment the light appears, a strong pull is felt in the machine, quite equal to that caused by throwing the strap moving a system of machinery from the loose on to the fixed pulley of a steam-engine shaft. The work done,—not, as it is improperly stated, even by scientific men, in converting motion into electricity,—but in extracting, by mechanical agency, an intense dose of electricity from the electrosphere of the earth, is very great, and is measurable in horse-powers proportioned to the intensity of each focus of light.

It will be a worthy task for the Institution of Civil Engineers to invite definite communications as to the application of the electric light to lighthouse illumination. The greatest range attained by any lighthouse in the world may be taken at thirty-six miles, corresponding to an elevation of the focal plane above the sea of about 1,000 ft. At that distance, we apprehend that the differences in visibility between an electric light of 100 carcel power and the best arrangement of Argand lamps yet adopted, would be greatly in favour of the former. On the other hand, a spare set of oil-lamps would always have to be kept ready in case of any mishap to the electric apparatus. Then the question would have to be decided by practical experts, how far there would be accommodation in a sea tower, such as we have recently described, for the steam engine, Gramme machines, and stores of coal requisite for the production of the light; and how far the constant tremor caused by the action of the steam engine might affect either the masonry of the tower, or the delicate machinery of the lantern. On lighthouses fixed on shore these considerations would probably be of little weight; but for the sea towers, which we regard as lighthouses *par excellence*, they are of very great moment.

We shall hope to have the means of comparing the results of the experiments made by the Metropolitan Board of Works with those now concluded by the City Commissioners of Sewers. Fairplay is being given to the new invention; and, indeed, Mr. Haywood's report seems to show that desire for its success in which all scientific men must sympathise. We hope that in any of those discussions on the subject which may be expected to follow the publication of the result of these experiments, the point that we have just raised as to quantity and tension of electricity may receive due attention. The question of the distribution of the light, and the proportion between quantity of light at given points and area to be illuminated, is a purely geometrical one, as to which there can be no difference of opinion among educated men,—educated, that is to say, in the rudiments of geometry. But the question of intensity of light, or the radiant *foci*, and of the tension of the electric current required to produce such light, as compared with the quantity of such current, is one that we have not hitherto seen treated with the lucidity that its importance demands. In the difference between tension and quantity lies one of the main essential differences between the study of mechanics, as ordinarily understood, and that of what we may venture to term electro-mechanics.

It may be hoped that useful statistics will be forthcoming at the lecture on the electric light and exhibition of apparatus, fixed to take place at the Albert Hall on the 7th of May.

EMPLOYERS' LIABILITY.

Two kinds of difficulty attend the execution of any change in existing laws. One is inherent. It is a difficulty too often overlooked by legislators, in which case it is pretty sure to avenge itself upon litigants. This difficulty arises from the enormous mass of statute and of judge-made law now existing, and from the unexpected mode in which a change introduced in order to effect one object may be found to effect some other very different object. This danger is inseparable from the construction of laws by assemblies of men. It is generally so far appreciated in this country that few new Acts of Parliament are considered by a lawyer to be quite intelligible until some trial has led to the delivery from the Bench of a judicial decision on the subject, fixing the purport, limits, and effect of the new law, under the pretext of declaring the mind of the legislators.

The second kind of difficulty arises from the spirit of party, or from the wish to alter a law in accordance with one, or with another, set of political opinions. We will term the first the legislative difficulty; the second the constitutional, or political, difficulty. It is obvious that, with our present system of legislation, the effect of the latter dispute is very greatly to enhance the former source of confusion, if not to render wise legislation on a much-debated point impossible.

The case of employers' liability is one that very fully illustrates the above remarks. The subject in itself is one involving broad and important questions of public policy, as well as, at times, instances of private hardship. It should be borne in mind that our existing industries have grown to their actual vigorous maturity under the law which it is now sought to change. That the operation of this law has occasionally involved great hardship, not to say injustice, is freely admitted; but the question for decision is how far public policy and private hardship are inseparable, or how far it may be possible to provide against the latter, without running counter to the former. That the public welfare is to be the first thing to consult is the ruling principle of our law, and the negative of such a principle means revolution. It means this according to the same rule on which it was once said, "All protection means robbing somebody else." However far we may be disposed to admit the justice of that fortunate apophthegm, every private interest is subservient and secondary to the public interest, in the same way that the constituent parts are inferior to the whole. There may be a conflict of private interests: there often is. That course which is most beneficial to the greatest number of the more important private interests is that which is most in accordance with the public welfare.

The Attorney-General's Bill to amend the law of liability of employers for injuries sustained by the servants in their employ is at least an attempt to deal with the legislative difficulty of this case. It is felt, and we think justly felt, that in cases where, owing to negligence or parsimony of a large employer of labour, injury is sustained by any of those in his employ, it should be no bar to the recovery of damages that the immediate agent, who inflicted the injury, was a fellow servant. But the principle here is clear. It must be in some way the act of the principal, or an act for which he is morally responsible, as being that of his trusted representative, which was in fault, in order to justify any claim on the principal for redress. Thus in such a case as the use of a rope for hauling miners up a shaft after such rope had become frayed or worn, or the application to the shaft, in the first instance, of an unsound rope, or a rope of too small size, there is a degree of fairness in the contention that the principal should be responsible for the damage caused by the breakage of the rope; and that the fact that the engine-driver, or the man who fitted the rope, was a fellow-servant with the miners injured by its fracture should not be a bar to a claim on the part of the latter for compensation. But if the engineman were intoxicated, not being a person liable to the imputation of want of sobriety; or if the banksman dropped a block of coal on the miners ascending the shaft, there could be no equity or justice in making the principal responsible for the damage ensuing. This, we think, is the true solution of the knot of the question,—the guilty participation of the principal as the cause of the accident,—using the term "guilty" in a wide sense, so as to include any neglect of the best precautions ordinarily taken in similar cases, and the making the trusted representative of the principal bind the principal in liability.

No doubt there would be great difficulty in so framing a new law as to do justice to all parties. But we think the principle which we have ventured to suggest is the only one. And we think that this is what is intended as the basis of the Attorney-General's Bill.

The Parliamentary Committee of the Trade Unions Congress, however, have taken a different view of the case. They have decided that the Bill of the Government is not satisfactory, and they have resolved "that no measures dealing with the law of employers for injuries sustained by their workmen would be accepted as a satisfactory solution of the question while it admitted, as a ground of defence in any action brought for recovery of damages in respect of bodily injury or loss of life, that the person by whose neglect the injury or loss of life was alleged to have been caused was working in common employment with the person so killed or injured."

The country owes a debt of gratitude to the above-named committee for having so distinctly formulated the grounds on which they, so far as their power and influence may reach, have resolved to insist. That ground is unmistakable. No less unmistakable is the fact that the political difficulty thus added to the legal difficulty of the case tends towards one of two results. It would either make legislation impossible, or the continuance of great industries impossible. For it would place the employer at the mercy, not only of every combination of his workmen, but of every ill-disposed, revengeful, or malignant workman. Reverting to the case before mentioned of the fall of a heavy object down a shaft to the injury of men in the shaft; cases of that kind are not without precedent. We have even heard,—and that not in vague rumour only,—of cases where the object thrown down the shaft was a man. In such a case, if an action were brought against the owner of the mine, the resolution of the committee would debar him from his first ground of defence. Nor is it difficult to see that, if a principal were made responsible for the acts of all his servants, the responsibility would be so great that none but reckless and improvident persons could be found to undertake it.

The precise terms of the resolution, happily, are such as to contain within themselves the elements of their own condemnation. The trade unions committee will tell us that they are attempting only the removal of an artificial or law-made obstacle to justice. Let us agree with them that this a good principle. But how do they propose to effect this? By introducing an entirely new artificial and law-made obstacle in another direction. On what ground of natural right can it be pretended that if A and B, fellow servants of C, are working together, and A kills B, B's representatives have a claim for compensation from C? A was the culprit; A is the responsible party. To hold C in any way liable is not a matter of common justice. It is, or would be, only the result of arbitrary and ridiculously unjust law. Show, as we said before, that negligence on the part of C has contributed to the misdeed of A, and C may fairly be held liable as a contributor to the mischief,—the degree of his contribution being matter of evidence. But the first person to bring to book is A. It may be said that A has no means of paying, and that C has. But that is merely to say, "We will take the money wherever we can find it, if not in one man's pocket, in that of another." Any proceeding that would spring from natural justice (or, we speak under correction from the legal profession, from common law) must begin with A. His ability or inability

to pay costs has nothing to do with the question of his legal responsibility.

We will not charge the trade unions, either directly or by insinuation, with an attempt by a bye-wind to damage so far the position of all great employers of labour as to lead to the retirement of capitalists from industrial occupations,—to the benefit, may be, of co-operative associations. But it must not be forgotten that, at all events in America, this has been distinctly formulated as one of the great objects for which the working men are to combine. And we must fear that, whatever be the aim or intent of the committee, some such result would follow if this resolution could take effect in a corresponding change of the law.

But we wish to point out clearly, and especially to our industrial readers, that two wrongs do not make a right. The committee wish to strike out from our statute-book a technical ground of defence. At the same time, in order to be fair and just, they must strike out the corresponding technical ground of action. The matter must be decided on one of two principles, — either natural right or public policy. As to the latter we have spoken, and we have further admitted that for the sake of public policy it may be desirable to make the employer of labour responsible to those in his employment in a manner which is stretching his true natural responsibility. But it will not do to hold with the hounds and to run with the hare. Even that fearful scarecrow, the capitalist, is not to be made a mere banker for all in his employ,—the deposits being not theirs, but his own. "The person by whose neglect the injury or loss of life was alleged to have been caused" is the person to whom the killed or injured fellow-workman or his representatives have in the first instance to apply for compensation. If this person can throw the blame, or any portion of it, on another, that is his look out. That is the general state of the law. The question of common employment comes after. It is an artificial question. It is not free from difficulty; but there is, as we have intimated, a sound principle involved, the declaration of which would reduce all difficulties to those of administrative detail. The resolution which we have cited entirely ignores the primary facts of the case, and could have no practical result if carried out but to cause the withdrawal of realised capital from industry.

THE THAMES BRIDGES AGAIN.

THE unexpected revival of the high-level scheme for a bridge over the Thames near the Tower, by the resolution of the Metropolitan Board of Works to proceed in their application for Parliamentary sanction, in opposition to the recommendation of their own Works Committee, is one of the features of the past week. It is the less necessary for us here to repeat our former observations on the subject, for the reason that the gist of the greater part of them has been very fairly represented by the *Standard* in a leading article on the 24th inst. The opposition that exists between the requirements of the east and west water traffic, and the North and South land traffic; the question of the lightening the strain on London Bridge by the provision of another crossing; the inutility of the measure, in any case, without an enormous outlay in a corresponding widening of the approaches; and the difficulty which the ascent to a sufficiently lofty height above the river would oppose to the use of the proposed bridge for heavy traffic, are fully referred to by our contemporary. To this have to be added the facts that the experience of the two tunnels already made under the Thames, and the direction of the main lines of traffic towards the west on both banks of the river, are not encouraging as to the utility of a new crossing at the proposed point. To this may again be added the hypothetical character of the estimates for so novel a structure as a steel arch of the magnitude proposed, together with adequate approaches; the latter probably forming the most serious elements of the cost. The *Standard* adds the objection of the military authorities to the command of the Tower which would be given by such a structure. This objection is not disposed of by the remark that there are already lofty buildings overlooking that post. In the case of any great military emergency such buildings would be either occupied or destroyed. It would be different in the case of such a structure as a bridge, the hostile occupation of which would render the Tower perfectly untenable.

On the other hand, attention cannot be too often directed to the evidence which we have more than once cited from Sir John Rennie himself, the engineer of London Bridge, which shows that to throw great additional weight on the foundations would be almost certain destruction to the bridge itself; and that, from the nature of the spot on which, against his own desire, the engineer was compelled by the City authorities to build the bridge, any extension of the foundations is a matter of practical impossibility. It may be a good thing to have these matters thoroughly thrashed out before a Parliamentary Committee. But it is more than questionable how far, in the present state of public feeling and public business, adequate attention can be commanded for the investigation. We should like to see some adequate statement as to traffic, such as we have before shown to be necessary, brought before the public, and especially before the ratepayers, before the latter are involved in a costly Parliamentary contest. And, in any case, we must call attention to the fact that London Bridge is unrepresented. Its natural Conservators, the City authorities, seem bent on improving it out of existence. Parliament has hitherto stood in the way. But Parliament may hesitate continuously to oppose the City, unless the real facts as to the foundation of London Bridge are made publicly known. Is it too much to suggest that the Royal Institute of British Architects and the Institution of Civil Engineers are two bodies deeply interested in the maintenance of one of the noblest monuments, and most useful public works of the metropolis, and that an expression of opinion on the part of either or both of these bodies might prove the turning-point as to the salvation or destruction of the bridge?

OUR MINERAL OUTPUT.

LARGELY dependent as Britain is for her commercial greatness on her mineral treasures, one of the most interesting of the statistical works annually issued should be the official "Mineral Statistics," which tell, tardily, the extent to which those mineral treasures are drawn upon. Our knowledge is brought down by the recent publication to last year, and it will be of interest to glance at the latest issue. Our coal is by far the most valuable of our produce, and we draw on it to a larger extent and value than all the others combined. It appears that last year the coal production of Britain was 134,610,763 tons, and this was drawn from 3,770 collieries. From the great coalfield of the north the output for the year was rather less than in its predecessor, the total now being 31,210,400 tons, of which South Durham furnishes by far the larger proportion. In the north-west we have Cumberland, with a production of 1,515,783 tons, whilst three collieries in Westmoreland yield 1,791 tons. Cheshire has an output of 645,500 tons; Lancashire, from its northern and eastern portions, yields 8,735,055 tons, and from the west, 8,886,476 tons. Yorkshire is becoming one of our largest contributors to the coal production of the country, yielding last year from the West Riding 15,952,400 tons, and from the North Riding 8,150 tons only. Derbyshire draws 6,975,550 tons; Nottinghamshire, 3,895,750 tons; Warwickshire, 930,850 tons; and Leicestershire, 1,149,590 tons. Staffordshire yields from the north 4,149,975, and the southern district (including part of Worcestershire), 9,841,191 tons. Shropshire contributes 927,580 tons; and Gloucestershire, 1,194,726 tons; whilst Somerset and Devon yield together only 666,500 tons. Monmouthshire has an output of 4 350,785; and, coming to North Wales, we find that its total is 2,479,580 tons,—Denbighshire contributing more than half, and Flintshire the bulk of the remainder. South Wales is enlarging its output materially, Glamorganshire alone now raising 11.889,600, whilst Carmarthen, and others with small output, bring the total for that part of the Principality to 12,634,335 tons. Scotland yields 18,320,074 tons, its western district giving towards that 6,867,701 tons from 222 collieries, and the eastern the larger aggregate and proportionate remainder from 305 collieries. The 51 coal-pits in Ireland yield 138,722 tons, and thus the total output of the kingdom is formed. Generally, it may be said that the tendency in the coal trade has been to increase the production of the collieries on the average, and the reports of the mine inspectors show that there is a larger average output for each collier employed, so that to this extent there is increased economy of production in recent years.

Turning now to the production of ironstone, we find that the amount raised in the United Kingdom was 16,692,802 tons. Cleveland continues to be the largest producer, both in quantity and value. Her production last year is given as 6,284,545 tons; Northamptonshire has 1,049,806 tons; Cumberland has an output of 1,351,441 tons; and from the mines in the Furness district there were produced 993,012 tons. These, with Lincolnshire with 508,749 tons, are the only large producers of iron from mines not under the Coal-mines Regulation Act. There are, however, produced from Wiltshire 79,176 tons; from Somersetshire, 51,927 tons; Gloucestershire, 92,974 tons; South Wales and Monmouthshire, 77,320 tons; whilst some smaller contributions bring up the total to 10,768,075 tons; and with the iron ore from mines worked under the Coal-mines Regulation Act, 5,921,727 tons, the total production of Great Britain is formed. The value of the last class of ore is much in excess of the other, and the total of all kinds is 6,746,668*l*. To this, however, there is added a comparatively small amount of iron ore imported, and thus there is smelted in the United Kingdom over 18,250,000 tons. This, at 541 blast furnaces, was converted with 15,342,445 tons of coal into 6,608,664 tons of pig-iron,—4,888,991 tons being produced in England, 982,000 tons in Scotland, and the remainder in Wales. Of tin ore, it may be said that 14,142 tons were produced in the year from Cornwall and Devon, the value being stated as 572,763*l*. Of copper ore, 73,141 tons were produced, the value being returned at 262,270*l*.; and of lead ore, chiefly from the Northern district, and from Wales, Yorkshire, and Shropshire, 80,850 tons, of the value of 1,123,952*l*. Zinc ore is returned as worth 86,151*l*., and the extent of the production as 24,405 tons. This comprises the chief of our minerals, and it is evident to what a large extent we draw upon the stores that have been so long laid up for our use.

There are, however, a few other figures given in the official returns, which may be briefly quoted. Of iron pyrites, the production was 43,948 tons, and the estimated value 28,225*l*.; of arsenic 3,809 tons, value 30,420*l*.; whilst of manganese, which is yearly becoming more and more valuable for its use in connexion with the steel manufacture, we only produced 3,038 tons, value 7,958*l*. The gold is returned as worth 18*l*. only; the silver ore, 927*l*.; and the uranium ore, 11*l*. The clays included in the list are chiefly got in the south and south-west of England; the tonnage for the year was 2,961,155 tons, and the value 592,231*l*. Salt, chiefly from Cheshire, was produced to the extent of 2,735,001 tons, and to the value of 1,504,250*l*. There were a few other kinds of minerals produced, which bring up the total value for the kingdom, including all those stated, to the handsome total of 58,398,071*l*.,—a sum which, however, is about 300,000*l*. below the estimated value of the produce for the previous year. The falling-off does not so much arise from diminished value of the minerals as from diminished quantities of one or two classes. In coprolites and phosphatic nodules the declension is most marked, there being a fall of about 400,000*l*. in the value; and it is to this that the manure manufacturers trace their very much greater dependence upon foreign supplies.

It is evident that we are drawing generally in increased quantities upon our resources of minerals, and it is satisfactory to notice that with this there is an increased use of the power thus obtained. In our coal supply, this is especially the case, for there is not only an increased economy in the household use of coal, but in the iron manufacture and in the raising of steam power, there is now a very great economy in the use, and whilst this is the case, the enlarged production is not wholly to be regretted. It is true that there is still very great waste in the use of fuel, and that especially in its use for steam purposes there is a need for very great economy, for only a very small proportion of the theoretical power in coal is used now, and hence, whilst this is the case, the increased output cannot be regarded as satisfactory. The fact is well known that much of our industrial prosperity, not to say supremacy, depends upon our mineral resources, and that the husbanding of these is needful,—that is to say, not the reduction of the output, but the

obtaining of the greatest amount of power from the quantity used. The valuable returns which have furnished the figures above quoted assist in directing public attention yearly to this subject, and by showing the extent to which we draw upon our reserves of stored power, and by indicating, in some slight measure, a little of the uses to which they are put, they give data by which some idea of the uses and the waste is obtained from year to year.

THE OLDEST THING IN LONDON.

DURING this last chill carnival, perhaps the most oppressive and dismal ever known in Venice, while the forced festivities crowded the Piazza of San Marco, the Piazzetto, and the Molo, in spite of the east wind whirling round in gentle eddies the pumpkin-seeds, the spent harmless weapons of the season's revelries, it was impossible not to be impressed by the consideration of the number of gay *fêtes*, the gorgeous ceremonies, and cruel executions, the two antique and famous columns of the Piazzetta, during their comparatively short stay in Venice of 600 years, have, season by season, looked down upon,—antique among innumerable relics dragged from countries whose history is coeval with the events of Scripture; and in addition to the impression made by this reflection, it was equally impossible not to feel how, far more carefully and deliberately than we Londoners with Cleopatra's Needle, the Venetians of twenty generations since considered the important matter of the setting-up of these Syrian monuments.

The dissatisfaction at the position and treatment of the so-called Cleopatra's Needle may fairly be said to be universal,—"mislaid," as the President of the Royal Academy not long since observed, "on the parapet of the Thames Embankment," and, "placed in such a manner as to defy and set aside all the eternal fitnesses of things æsthetic,—adorning nothing, emphasising nothing, and by nothing emphasised,—placed, as it were, parenthetically between two highways, perhaps the finest of their kind in the world, but neither of them leading up to it, but rather hurrying past it."

When we consider how long, and with what respect antiquaries have regarded the London Stone, a venerable relic at the time of the Conquest, and near which lived the first mayor London ever had; itself the centre of that superb system of military Roman roads remains of which still awaken the interest of archæologists; when we consider the antiquity of this hoary shapeless relic, or the interest and equally venerable character of the Coronation stone,—the Irish relic dragged to Scone, and thence to Westminster Abbey, more than five centuries ago, and roundly declared, according to monkish authority, to be the same stone which served Jacob as his pillow; when we consider the extraordinary interest that antiquaries attach to the tri-linguistic Rosetta stone, discovered in Egypt at the end of the last century by Boussard, and giving the key to the mysterious language of the Egyptian inscriptions,—reflecting that that stone was fashioned only a century and a half or so before the Christian era; when we compare the age of these famous stones, which we treasure, with that of the Obelisk only so lately set up in London, and which shows us its legible surface more than 3,000 years of age, something more than ordinary respect is due to Cleopatra's Needle as the oldest of things even in London.

In the presence of such a monument, the thick veil of mystery and distant tradition seems torn away which separates us from the comparatively early days when the Phœnicians traded with the Cassiterides, and London was but a small hamlet, before the arrival of the Romans, when the wild boar and the bear, the wild ox and the wolf, prowled through the woods of Hampstead. In the presence of the obelisks which stand on the banks of the Tiber, even the Classic myths of the early kings of the Eternal City and all the history of Rome's ruins seem but mere dreams; all the mysterious origins of Byzantium shrivel as a scroll when we remember that these imperishable monuments, as they stood in all their glory, untouched in the land where they were erected, were recalled in one of the most awe-inspiring of the traditions of that forty years' long travel of the Israelites through the desert, the column of fire, the pillar of cloud. And doubtless the fugitives, as they followed the guidance of this mysterious beacon, must have recalled its strange resemblance to the antique obelisks they had left in the land of their bond-stricken fathers.

It cannot but be a matter of regret to every one to see the evident haste with which so important a relic as Cleopatra's Needle was set up, and the extraordinary want of artistic consideration given to its pedestal; and an additional grief it cannot fail to have been to all true archæologists, that for any purpose whatsoever the monolith should have been mutilated.

Why should not the precedent established in Venice six hundred years ago have been carried out, and the broken or irregular portions of the base of the obelisk have been made regular, if that was desirable, with some stone as nearly resembling the Syenite as possible? By this means additional height might have been given to the monument. It is not too late even now to do this, so far as what is left is concerned, and thus the unsightly rounded base of the monolith may be made to cease to give rise, with any justification, to "a jeer, a sneer, or a fear."

Venetia.

THE WESTMINSTER TOBACCO-BOX.

AMONG the curiosities of the ancient city of Westminster must certainly be reckoned its tobacco-box, well known locally, but little known generally.

It is an interesting relic of the days of Queen Anne, and, according to "A Brief Account," by Mr. T. C. Noble, recently published, has now being rescued from comparative seclusion, and become for the time celebrated in more ways than one, having been exhibited before the Queen and Royal Family and the Society of Antiquaries.

Mr. Noble gives us in a few pages a singular history. It appears that a Mr. Henry Monck, a past overseer of St. Margaret's, Westminster (1713), purchased at Horsefair a small oval-shaped box, which he used to take with him to a tavern, where he met his brethren of "The Past Overseers' Society," and there he evidently proved himself a "jolly good fellow" by supplying his friends with tobacco out of the friendly box. The society seems to have been a convivial club, which was founded early in the last century, and numbered between fifty and sixty, and to them Mr. Monck gave the trifle for their joint use, a fact duly recorded by his friends by a *silver* rim affixed to it in 1720. From that date until the present year successive overseers have each added a silver plate, and as each plate has required space to fix it on, so the box had to be supplemented by others being built around it, until the present year sees no less than seven cases or boxes, being the original and six outer ones,—the former being 4½ in. long and 3¾ in. wide, ¾ in. inside depth, and 13¼ in. round, while the seventh, octagon in shape, is 5 ft. round and 3 ft. high; the original box weighing some 10 oz.; the last nearly 50 lb.; and the whole about a hundredweight!

The first plate (omitting locals) represents on the inside of the original lid a bust of the Duke of Cumberland surrounded with trophies emblematical of the Battle of Culloden, on the 16th of April, 1746, said to have been designed by William Hogarth. The last three plates represent the Proclamation of the Queen as Empress of India, the erection of the Cleopatra Needle on the Thames Embankment, and the Loss of the *Princess Alice* steamship. Between 1746 and 1878 each year is duly recorded on plates, some of which are very well engraved, among which may be mentioned the Trial of Admiral Keppel, 1779; the Battle of the Nile; the Proclamation of Peace, 1802; the Volunteers in Westminster Abbey, 1802; the Battle of Waterloo, 1815; the Trial of Queen Caroline; the Exhibition of 1851; and a number of well-engraved portraits. Two engraved plates represent two interesting events in connexion with the box,—the delivering of it from the past overseer to his successor, and the Lord Chancellor decreeing the restoration of the box to the society after the celebrated trial of 1796, about which Mr. Noble gives an interesting note. It appears also that in 1785 the box narrowly escaped being lost through a burglary at the house of the then overseer. Had it been stolen, it would have, without doubt, found its way to the melting-pot.

After its restoration, it was ordered that it should be kept in future "in the iron chest of the dark vestry of St. Margaret's Church," but how long this good resolve was acted upon we know not. Among the present conditions under which the overseer holds it are that it shall be produced at each annual meeting; that the original box shall contain at least three pipes of tobacco; that if the tobacco is not forthcoming the overseer is to be fined six bottles of Port; and that if the box is not forthcoming with some additional ornament on it the fine is fixed at 200 guineas.

As the present Church of St. Margaret, Westminster, is under the process of restoration, Mr. Noble has written the account of this interesting box in aid of the funds. The book is given away with a large Photograph of the Box and Cases, published by Mr. John Archbutt, 8, Bridge-street, Westminster, at the sum of 5s., and as the profits are to be devoted to a good cause we wish the publication a good sale.

We may mention that William Caxton, the first English printer, was buried in St. Margaret's Church exactly 400 years ago.

THE GRAND HOTEL, CHARING-CROSS.

THIS building, which has recently been described at some length in this journal, both on the occasion of the visit of the Architectural Association, and also in the report of a paper read before the same body by Mr. F. J. Francis, one of the architects, occupies a position second to none in London. It stands on part of the site of Northumberland House, belonging to the Metropolitan Board of Works, who paid half a million to the Duke of Northumberland for his proportion of the ground forming the Avenue. The area on which the hotel stands measures nearly 20,000 superficial feet.

The ground-floor, facing Charing-cross and the Avenue, is designed for a series of thirteen shops, having an average area of 400 ft. each, with spacious basements and vaults under. Owing to the fall of the ground towards the south, so great an altitude is given to some of the shops that handsome mezzanine stories will easily be obtained.

On the ground-floor of the hotel are the luncheon *buffet*, with grill-room under, the grand central dining-room, and spacious secondary dining-rooms; the smoking-room, with billiard-room under; large serving-rooms; the principal staircase; and an elaborately-finished entrance-hall and vestibule.

On the first-floor are a large drawing-room for ladies, a general library, and five suites of sitting and bed rooms, with necessary conveniences attached. The remainder of this floor and the whole of the five floors above are divided into between 200 and 300 rooms, having an average area of 300 ft.

At the Northumberland-street end of the building is the kitchen department, occupying space on the first, second, third, and fourth floors. On the top-floor a large unoccupied area has been reserved for the erection of a laundry, should such an important addition to the establishment be considered advisable.

The character of the elevations has been determined by the peculiarities of the site. The curved sweep between Charing-cross and the Avenue has added to the difficulty of picturesque architectural combination, and the necessity for a sevenfold division of stories prevented any bold or massive treatment; while the very heavy ground-rent forbad the sacrifice of any part of the area in recesses which would have been very desirable, and by which the monotony of the front would have been avoided.

The Italian style was chosen as offering the least difficulty in producing a satisfactory result, and the high Mansard roofs flanking the composition will take off the horizontalism which would otherwise be too conspicuous.

The work in the foundations, and up to the ground-line, was executed by Mr. E. Reddin; the contractors for the superstructure are Messrs. Merritt & Ashby, of London-wall, who are under engagement to complete the building by the end of the present year. The architects are Messrs. F. & H. Francis and Mr. J. E. Saunders. The clerk of the works, under the architects, is Mr. G. Holloway, and Mr. Coates is the builders' general foreman.

Work for Russian Surveyors. — It is announced that no furnished apartments can henceforth be had at St. Petersburg unless plans, showing the situation of the rooms and the doors of entrance, have been previously handed to the police. This measure is intended to facilitate arrests.

THE GRAND HOTEL, CHARING CROSS.—MESSRS.

MESSRS. F. & H. FRANCIS AND MR. J. E. SAUNDERS, ARCHITECTS.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE eighth ordinary general meeting of this Institute for the present session was held on Monday evening last at Conduit-street, Mr. Charles Barry, president, in the chair. The attendance was very small.

The following gentlemen were balloted for and declared to be duly elected, viz.:—As *Fellow:* Mr. William Oakley (Associate), of Charles-street, St. James's; and as *Associates:* Mr. A. J. Martin, Darlington; Mr. S. R. J. Smith, South Lambeth; Mr. F. E. F. Bailey, Walsall; and Mr. A. H. Kersey, Moorgate-street.

Herr Gropius, Government architect, Berlin, was elected by acclamation an Honorary and Corresponding Member.

The Secretary, Mr. William H. White, announced several donations of books, including the whole of Captain Shaw's works on "Fire Surveys," "Fires in Theatres," &c. In moving a vote of thanks to the various donors, the President referred to the extreme value to the profession of Captain Shaw's works.

Mr. Colling then read his paper on "Architectural Foliage," which we print on other pages, together with some illustrations.

In the discussion which followed,

Mr. Hadfield, of Sheffield, moved a vote of thanks to Mr. Colling, who, as was well known, was a thorough master of his subject. With a great deal of what had been said in the paper he (Mr. Hadfield) agreed most cordially, although he was not able to enter into the subject at length. He thought that Mr. Colling's labours and researches were bearing fruit in the improvement which was visible in architectural carved work generally in this country.

Professor Kerr, in seconding the vote of thanks, said Mr. Colling's study of foliage had been for many years known to them, and his works on the subject had been universally examined. It was a subject, however, which it was difficult to discuss, because it was one which it was extremely difficult to reduce to anything like philosophy. Mr. Colling had given numerous examples, and had exhibited his powers of investigation very remarkably; but he had not professed, and probably he would not like to profess, that he had reduced his system of investigation to anything like its laws. He had referred them to Nature, and there he left them. Now, it seemed to him (the Professor) that there were one or two considerations upon which, without in the slightest degree attempting to contradict Mr. Colling, he might dwell. One point was that of the scale of natural products which were to be imitated. It seemed to him (the speaker) that, granting the proposition that nature was to supply us with materials for our ornament, we must accept, as part of the proposition, the scale of the natural products which we were to imitate. For instance, if we took the parsley-leaf, or the leaves of the horse-chestnut, the dock, the thistle, or even the ordinary trefoil clover, we were scarcely at liberty to reduce or enlarge all of them to one size, because, according to Mr. Colling, we should proceed on the assumption that Nature was perfect in her design, and the scale of the design was obviously part of it. At the same time, he thought Mr. Colling had very clearly made out that in all natural foliage the same principle of form might be seen at work, though on different scales, so that, recognising another principle laid down by Mr. Colling, viz., the propriety of conventionalising according to circumstances, it would be interesting if he would say how it was possible to get over the difficulty of reproducing natural products on different scales to those possessed by them in nature. Again, if we were to imitate nature in stone, how would it be possible to copy natural leaves to a nicety in such a material? Did it not seem to be a fact that those forms which nature had dictated to us in the tissues of the leaves of plants were inappropriate for reproduction in such a material as stone? It was, of course, possible to get over this difficulty of material by conventionalising. Then he came to the position that in architectural, or rather architecturesque foliage,—*i.e.*, foliage which was not merely part of the architecture, but of the essence of it,—conventionalism was an essential. Of course, when carving in boxwood or ivory, as a matter of delicate and dainty ornament for articles of *vertu*, it was allowable to copy nature as exactly as possible; but when carving, on a piece of architecture, foliage which should be of the essence of that architecture, conventionalism was indispensable. The Greeks, who would be admitted to be masters of artistic conception and execution in every way, universally conventionalised their foliage; and although when we came to look at Mediæval carvings,—admitting, as we were bound to do, the exquisite nicety of the work, especially that of the thirteenth century,—we saw a much more naturalistic impulse than that which prevailed in Greek work, yet even the Mediæval carvers had to resort to conventionalism. Their work was much more naturalistic in design than the work of the Greeks, although much more conventionalised than the mere naturalistic foliage of the present day would be. Probably no one would now hesitate to condemn the festoons and swags of the corrupt period of the Renaissance, although at the present moment, in what was called the "Queen Anne" style, not only were those who were masters of that style (if any men were) compelled to use extremely foolish swags and festoons, but they were compelled to develope them in red brick,—a marvellous instance of what the human mind could be brought to do when once it laid hold of a vicious principle. Mr. Colling, however, had gone on much higher ground than anything of that kind, and had suggested, where he had not actually laid down, principles of art as applied to architectural carving which showed how ridiculous it was to carve in red brick. One point upon which Mr. Colling might be asked to say a word was the introduction of the principle of architecturesque carving into terra cotta. Now, as Mr. Colling was probably well aware, there were two principles upon which terra cotta might be used. One was the principle whereby the terra cotta was taken from the mould, burnt in the kiln, and used as it was moulded; the other was the principle upon which the terra cotta was sophisticated, trimmed, modified, improved, undercut, or otherwise manipulated after it had come from the mould. Those two principles or methods of treatment were suggestive of a decided artistic difference,—a difference which would be found to prevail in the use of ornament of the same kind in other materials, such as plaster, for instance, where, he apprehended, the cast ornament should differ in character and treatment from that which was modelled with the tool. In conclusion, the Professor thanked Mr. Colling for his paper, which was one of great practical and artistic value, and, therefore, ought to be much esteemed.

The President, in putting the vote of thanks to the meeting, said that Mr. Colling's paper had introduced to the members a very interesting architectural detail, but, after all, only a subordinate one in the work that the architect had to do. The first consideration of architects should be not so much directed to the superficial decoration of their compositions as to their proportion and contour. If these were unsatisfactory, no amount of ingenuity in carving, whether realistic or conventional, would make compensation. He thought Mr. Colling had spoken rather depreciatingly of mouldings; but he (the Chairman) for one had always been taught that refinement in the profiles of mouldings was a distinguishing feature in the works of every architect of taste. He was disposed to attach a great deal more importance to the study of mouldings than to any amount of carving. He ventured, *pace* Professor Kerr and Mr. Colling, to make some little apology for the much-abused festoon, which, though it certainly did not represent growing flowers, as in the case of capitals, yet it represented flowers plucked and fastened together in festoons, as used for the decoration of buildings on festive occasions. It was far from his desire to unduly decry the taste which had been developed of late years for naturalistic carving; but he was bound to say that he knew of some cases in which that taste had been allowed to run wild to an extent which had entirely disguised the architectural forms.

The vote of thanks having been carried,

Mr. Colling, in reply, said that Professor Kerr had not correctly represented his views as to scale. His (Mr. Colling's) principle was to take anything he chose from natural foliage, and reduce it or enlarge it in carving to any scale desired. Why should he not do so, due regard being paid, of course, to the position which the carved work would occupy? In nature the leaves of a particular plant or tree were not all of one size. Nor did he advocate or practise the copying of any natural forms in foliage to a nicety. Taking a few leaves of one particular tree, they would all be found to differ more or less from each other, although each possessed the general characteristics common to all of them. Therefore there was ample room for variety of treatment and for individuality of work on the part of the carver. He, of course, had not intended to disparage mouldings; but he *would* say that there was too often a disposition on the part of architects to give themselves up entirely to mouldings. We had seen the Doric order carried out a great number of times in England, but, as in the case of the main entrance to Euston Station, almost invariably without a vestige of sculpture. *That* was going to the opposite extremity to that deprecated by the President. He objected to carved festoons because such features were originally artificial and extraneous ornaments. Architectural decoration, it appeared to him, should form a part of the architecture,—which a festoon never could do. As to carved foliage being allowed to run wild, it was one of the objects of his paper to show how to curb it and keep it within proper limits. He did not advocate a distinctly naturalistic treatment of carving to the exclusion of conventionalism, for every carver would conventionalise in his own way.

The proceedings closed with the announcement that the next meeting would take place on the 21st proximo.

NEW BUILDING FOR THE SOCIETY FOR THE PROMOTION OF CHRISTIAN KNOWLEDGE.

VISIT OF THE ARCHITECTURAL ASSOCIATION.

ON Saturday afternoon last the Architectural Association, by permission of the architect, Mr. John Gibson, visited the large and important building now in course of completion in Northumberland-avenue, Charing-cross, for the Society for the Promotion of Christian Knowledge. The visitors were received by Mr. Alfred Meeson, the clerk of the works, and Mr. W. Hankins, the representative of Messrs. W. Cubitt & Co., of Gray's-inn-road, who have the building in hand. Those gentlemen very courteously conducted the visitors over the building, and gave what explanations were necessary. With a forethought which is as commendable as it is rare on these occasions, the numerous and very complete plans, sections, elevations, and detail drawings were already laid out on tables in a large and well-lighted apartment when the visitors arrived. The building, which is Italian in style, has a frontage of between 50 ft. and 60 ft. to Northumberland-avenue, and a return frontage of 150 ft. to Great Scotland-yard. The average depth of the building is about 60 ft. The building is faced with Portland stone, and has a quadrant at the junction of the Avenue and Scotland-yard. The height of the building at this corner, from the pavement level, is 62 ft. to the top of the cornice, and 73 ft. to the apex of the roof; but as there is a fall in Scotland-yard, the building is several feet higher at the end nearest to Whitehall. The building contains basement, ground floor, and five floors above, and, to meet the requirements of the Building Act as to limit of cubical capacity, is divided into three nearly equal-sized blocks by two party-walls, communication from block to block being obtained on each floor by means of doorways fitted with double iron doors. Each block has its own staircase and rising gas and water mains. Concrete has been put in to a depth of 40 ft. in some places, and there is a bed of that material 6 ft. thick under the whole area of the building, covered with a layer of Seyssel asphalte. The basement includes large strong-rooms and a boiler-room,—the boilers being for the heating apparatus which is to be provided in addition to open fireplaces. The rest of the basement is appropriated to a large wholesale packing-room, together with warehouses for "sheet stock,"—*i.e.*, printed but unbound works. The ground-floor contains, at the Northumberland Avenue end of the building, a large and well-lighted retail shop, directly approached through a large doorway at the corner of Scotland-yard. This shop is 53 ft. long, 38 ft. wide, and 20 ft. high from floor to ceiling, and will be provided with bookcases on the ground level and with others in a gallery running round two sides of the shop. Access will be obtained from this shop to the principal staircase, which latter will also be approached by the principal private entrance in Scotland-yard, so that access may

be had to the board-room on the first floor without the necessity of passing through the shop. The ground-floor also contains the space allotted to the Grants Department, together with manager's rooms, warehouses, and store-rooms. Carts and vans will draw into and out of the building through two gateways approached from Scotland-yard, and the floor will be so arranged as to be on a level with the tail-boards of the vehicles. In this part of the building there will be lifts running from the basement to the top floor. The first floor contains, partly over the retail shop, the Board-room, 53 ft. long, 22 ft. wide, and 14 ft. high from floor to ceiling; secretary's room; committee-rooms; editors' rooms; accountants' and clerks' offices; warehouse for bound books, &c. The second floor includes a suite of apartments for the house-keeper or for a resident official, the rest of the floor being appropriated as a warehouse for bound books. The third, fourth, and fifth floors will be almost entirely used for warehousing sheet stock and light bound books. Internally, the building presents nothing particular in constructive features. The principal staircase is in Cliff Wood stone, and of the other two staircases, one will be of teak, and the other of iron. There are no fireproof floors whatever, and in those parts of the building used for warehouse and storage purposes, the wooden joists will not be concealed by lath and plaster. The building consists merely of the external and party-walls, interspaced with a network of iron columns and girders on each floor. The whole of these columns and girders have been made by Messrs. Cubitt & Co., the builders, at their works in the Gray's-inn-road. The building is well advanced, and will be completed in June; and probably the Society will migrate from Lincoln's Inn-fields in August.

MEDIÆVAL PARIS.*

ON the summit of the hill on the south side of the city, Clovis, the first king of the Franks, on his conversion to Christianity, founded a basilica dedicated to the Apostles SS. Peter and Paul. Clotilda completed it, and Clovis was here interred. Like St. Germain des Près, it received its name from a similar cause. St. Géneviève, the patron saint of Paris, was here interred, and from the miracles done at her tomb in the ninth century, the building received her name instead of its former one. But less fortunate than St. Germain, the church has entirely disappeared. The Rue Clovis passes over the exact site of the church, but the tower which was on the south side has escaped destruction. In the second court of the École des Beaux Arts are preserved the capitals of the columns of the nave. The church stood in the immediate proximity of the parish of St. Étienne de Mont. It possessed a nave with aisles (no transepts), and an apsidal choir with radiating chapels, the most eastern being square. It was almost entirely rebuilt in the thirteenth century; but the capitals of the nave, before referred to, are evidently earlier. The nave and aisles seem to have been covered with one roof, as, from a view given in the "Itinéraire," showing the west end in connexion with St. Étienne, the gable is divided by buttresses into three compartments; the lower stage has three doorways, the centre being much loftier than the side ones, with a wheel-window over, and narrow lancets over the side doors; then a horizontal string running right across; and above, two lancets with a wheel above, flanked by two small lancets not central with those over the side doors. Of the abbey buildings large portions still exist, worked into the modern Lycée. The three courts still exist; the chapter-house and refectory are comparatively perfect. The church was proposed to have been removed in the time of Louis XV., when the enormous new church of St. Géneviève was built a little to the west of the old, which is sometimes called the Pantheon, but was not finally destroyed until 1804 to 1807. The very beautiful effigy of Clovis, which was the work of the twelfth century, has been removed to St. Denis.

The shrine of St. Géneviève, the most sumptuous in Paris, and often carried in procession round Paris to avert any threatened misfortune (and of which M. Viollet-le-Duc gives a view in the "Mobilier"), was melted and broken up in 1793, but did not realise much for the Revolutionary cash-box.

Of the Abbey of St. Victor, close to the Halle aux Vins, no vestige now remains. It had been rebuilt in the time of François I., and must have exceded in size and magnificence the Church of St. Eustache, which it probably resembled. Its stained-glass windows were the most splendid in Paris, and its treasury rivalled St. Denis in richness. Here were preserved the hair shirt, combs, gloves, and coif of St. Thomas à Becket. In a very fine bird's-eye view of Paris, preserved in the British Museum, and for the time when made singularly accurate, this noble abbey, with its spires, forms a very striking object in the south-east quarter of the left bank of the Seine.

The Grey Friars, or, as they are called in France, the Cordelières, had a monastery on the south side of the Rue Pascal, outside the walls. The church has been demolished, but there are remains of the buildings in the modern hospital.

The abbey of St. Anthony has entirely disappeared, but has given its name to that quarter of Paris known as the Faubourg St. Antoine.

The best preserved of all these monastic institutions is that of the Priory of St. Martin-in-the-Fields, originally outside the walls, but afterwards included in the new extension of the City by Charles V. It is certainly well worth a visit from all students in architecture. The church and monastic buildings are now the Museum of Arts and Trades. The refectory is used as a library, and the nave, partitioned off the choir, was full of agricultural and other machines when I last saw it in October. The nave is without aisles, is very wide, and has an arched timber roof, the windows being very high up in the walls. The choir is earlier, of a solemn Romanesque character, apsidal, having seven bays, with ambulatory and radiating chapels. This part of the church is not in the best of repair, and it is rather difficult to gain admittance, the building being used as store-sheds. The easternmost chapel is of a very unusual plan, reminding one something of the ace of clubs. The chief glory is the noble refectory, now used as a library; it is divided down the centre by a range of very slender columns, and has in its north wall a pulpit like that at Beaulieu, in Hampshire. The proportions of this building are singularly beautiful. Like the nave of the adjoining church, it has been so plentifully bedizened with colour that a great portion of its architectural interest has gone. Most of the priory buildings remain, but they have been so built in and altered, that it is difficult to recognise them. The cloisters here were the most beautiful in Paris, but these, with the lady-chapel, chapter-house, and archive tower, had been rebuilt by the monks at the end of the seventeenth century. It was founded by Henry I. in 1060, in honour of St. Martin; and Philippe, his son, completed it and placed it under the Government of the great Abbey of Cluny, to whom it was affiliated. The refectory and the lady-chapel are said to have been designed by Pierre de Montereuil.

Notre Dame des Champs was a very ancient priory church, which had belonged to the Benedictines from the eighth century, but was ceded by them to the Carmelites in 1604. It was a spacious church of the twelfth century, and under it extended a vast crypt. It was outside the walls, in the Rue d'Enfer, and was utterly destroyed at the Revolution. The Order of Mount Carmel have since returned to the site, and fixed their abode. In the year 1710, after thirty-six years of what was really one life-long penance, died within these walls Sister Louise de la Misericorde, once known as Madame la Duchesse de la Vallière, mistress of Louis XIV.

During the thirteenth and fourteenth centuries a large number of convents were built. In all countries the orders of the Dominicans, Carthusians, Franciscans, Celestines, Jacobines, Augustines, and Capucines were at the height of their popularity; and here in Paris, as elsewhere, it was considered to be the "correct thing" to be buried in their churches. Time will not allow me to describe their various convents, as so much yet remains to describe of the churches and buildings of the Middle Ages which still exist. But I must not pass over the convent of the Jacobins, on the south side, between the gates of St. Michael and St. James. Their church was built for them by St. Louis, and, like most of the churches of this order, consisted of two parallel naves. There was one peculiarity connected with this convent: the refectory and "parloir" projected through the city wall, and formed externally, as seen from the fosse, a square embattled tower. Most of these churches of the various orders were exceedingly rich in tombs of the noble and illustrious dead. Many of the effigies have been preserved, and taken to St. Denis. They form quite a school of art of French sculpture from the twelfth to the eighteenth centuries.

Two religious orders, both of which played a very important part in the history of France, and were represented in Paris by their head or chief houses, deserve some notice. I allude to the Knights Templars and the Knights of St. John of Jerusalem. The former had a very splendid preceptory, rivalling the Château of the Louvre in its military aspect of crenellated walls and towers, and its immense central keep or donjon. Outside the first walls of Paris it became so formidable in a military aspect that it was included in the subsequent wall built by Charles V. After the suppression of this order, attended as it was by such dreadful sufferings and cruelties to the unfortunate knights, their buildings passed into the possession of the knights of St. John of Jerusalem, as in England. Their church was, of course, like all the churches belonging to this order, circular as to the nave, with a long choir. The Temple in Paris, from the slight sketch given by M. Viollet-le-Duc, was not equal in beauty to our London example, although it might have been larger. It was in the keep of the Temple that the dethroned Louis XVI., Marie Antoinette, Madame Elizabeth, sister to the King, Madame Royale, the King's daughter, Duchess d'Angoulême, and the young Dauphin, went through that long agony which only terminated in the death of all but one, the Princess. The keep was destroyed in 1805, and the last portions of this once famous edifice were removed in 1853. The commandery of St. John of Jerusalem was on the opposite side of the city, and was not inferior in beauty to that of the Templars. Their church, called St. John Lateran, was close to the Hôtel de Cluny. It was but very recently that the last remains of those buildings were removed. Its barn, in two divisions, divided by columns and beautifully vaulted, was removed in 1854. The tower of the Grand Commander of the Order was in a very perfect state until then, and every effort was made to save it, but without success. Some fragments have been preserved in the Musée de Cluny.

Parish Churches.—In that small space comprised in the Island of the City, not counting the cathedral, a monastery of the Barnabites, nor La Sainte Chapelle, there were no fewer than seventeen churches, all of which have now disappeared, only leaving very rare traces in some cases behind. The Ile de Cité was then densely populated, the streets were exceedingly narrow, and the very bridges were thronged with houses, —even in the Middle Ages immensely lofty, and inhabited by many families,—a characteristic of Paris to this day. Gone are the churches of St. Denis du Pas, St. Denis de la Chartre, St. Christopher, St. Géneviève des Ardents, St. Pierre aux Bœufs, St. Landre, St. Croix, St. Symphorien, St. Pierre des Arcis, St. Martial, St. Michael, St. Jean de Rond, St. Aignau, St. Barthèlemy, St. Germain le Vieux, La Madeleine, and I believe quite recently, what was left of the churches of the Barnabites, St. Eloy and St. Marine. The cathedral and La Sainte Chapelle are the only existing religious edifices left on the island. St. Jean le Rond occupied a very similar position in relation to the cathedral as the Church of St. Gregory did to Old St. Paul's, or as St. Margaret's, Westminster, does to the Abbey. It nearly touched the north-west tower. All these churches had been rebuilt in the twelfth and thirteenth centuries. Surrounded by the modern buildings of the Hôtel Dieu is the very beautiful twelfth-century church of St. Julian le Pauvre, difficult now of access, as it is used as the private chapel of the hospital, but no pains should be spared by the lovers of sacred architecture to see this little gem. Reference has been made before to the frequency of the change of dedication in Paris. The St. Julian to whom this church is dedicated was St. Julian the Martyr, but towards the end of the twelfth century another St. Julian, the Confessor, Bishop of Mans, called, from his wonderful charity, St. Julian the Poor, was substituted. The nave, now of six bays, was almost rebuilt in 1675, and was then shorn of two bays at the west end to enlarge the courtyard. A chancel arch, supported on clustered columns, divides it from the choir, which is entirely, with its chapels, of

* Read before the Architectural Association, on the 14th inst., by Mr. G. H. Birch, A.R.I.B.A. (see p. 317, *ante*).

the twelfth century. It is apsidal in plan, with two ranges of windows in the apse, the lower richly moulded, with clustered shafts, and the upper plainly splayed. The first portion of the choir is of two bays, with sexpartite vaulting in each bay. In the clearstory is a coupled lancet window, with internal columns and arches. The capitals of the cylindrical columns supporting these bays, and the carving throughout, are of the most masculine and vigorous type, similar in character to the choir of St. Germain des Près and Notre Dame. I noticed in the International Exhibition a project for rebuilding the nave, as it was supposed to be formerly. One has such a wholesome dread of "restoration," as understood by our neighbours across the Channel, that one would prefer the process being altogether dispensed with in this case. Another large parish church is close by,—St. Severin's. These ancient churches of Paris, which exist to this day, are all very late in style. Their chief glory is the old stained glass which exists in most of them. Another point deserving of attention in them all is their clever planning. No site was too difficult or too irregular. St. Severin's was almost entirely rebuilt during the fifteenth and sixteenth centuries. The three last bays of the nave at the west end are earlier, as is the lower part of the tower, which is at the north-west angle. When the church of St. Pierre-aux-Bœufs was destroyed, one of the doorways was brought here, and now serves as the west door. The date is about the first half of the thirteenth century. The plan consists of a nave and choir of the same internal height (externally the roof of the choir is higher), double aisles, and an external range of chapels. Attempts were made to give a Classic character to the arches and columns in the reign of Henry IV. It is vaulted throughout, The stained glass here is very fine, and deserves close attention. Opposite to the eastern façade of the Louvre is the fine church, formerly collegiate, of St. Germain l'Auxerrois, not named after St. Germain of Paris, but St. Germain of Auxerre. It formerly held first rank after the cathedral, and was most richly endowed. The chapter consisted of a dean, a chanter, thirteen canons, and eleven chaplains, or, as we should call them, minor canons. In 1744 the chapter was united to that of Notre Dame, and the church has since been parochial. In plan it is cruciform, but the transepts do not project beyond the double range of aisles. It is 240 French feet in length by 120 ft. wide. The nave has only four bays, the choir the same, and seven in the apse. The tower at the south-east angle is the earliest part of the fabric; then follows the central portion of the west door, and the remainder dates from the fifteenth and sixteenth centuries; but, as at St. Severin's, attempts were made to alter its pointed arches and clustered columns to the fashionable style of the seventeenth century. There formerly existed in this church a very beautiful choir-screen or rood-loft, designed by Pierre Lescot and carved by Jean Goujon. It was destroyed in 1744, and some of the fragments are preserved in the Louvre. There is some exquisite old glass in the rose-windows and clearstory windows of the transepts. The modern glass, filling nearly all the lower windows, is of the worst description. M. Lassus was the architect employed in the general restoration which this church has undergone. The signal for the fatal massacre of St. Barthomew was given from the belfry of the church. It existed in A.D. 886, for it was pillaged and burnt by the Normans. It was then called St. Germain-le-Rond. SS. Leu and Giles, in the Rue St. Denis, is another old church of the same style,—Late Flamboyant. St. Nicholas des Champs, close to the Priory of St. Martin, is curious from the mixture of styles, and is singularly imposing from its immense size and height. It is of the usual plan, without transepts. St. Laurent's is similar again. The famous architect, Lepautre, remodelled the church in the prevailing fashion of his time, but the key-stones of the vault are worthy of attention. St. Merry's, in the south-east district, should be visited; for, although very late in style (it having been rebuilt in 1520, and finished in 1640), it still is in the Gothic style. It is a large cruciform church, having a nave of five bays, a choir of three bays, and seven bays in the apse. There are two aisles on the south side of the nave, only one on the north, but both sides have chapels. Two architects of the name of Stodtz, in the reign of Louis XV., beautified it in the style of that age. Here the stained glass is very fine, but sadly fragmentary. A portion of one window has been removed to make good another. St. Gervais, so conspicuous an object looking eastward towards the Ile de Cité and the Hôtel de Ville, is an imposing structure, from its height and size; but I am afraid of wearying you with descriptions so similar in character. St. Médard's is principally remarkable for its continuous mouldings and curiously-carved key-stones. The churchyard was the scene of one of those extraordinary religious fallacies similar to that of the Shakers of our days. A sect, called Convulsionists, performed most extraordinary antics about the tomb of a deacon named Paris. Such was the scandal, that the cemetery was closed, giving rise to that witty epigram,—

"De par le Roy
Défense à Dieu
De faire des miracles
En ce lieu."

I have left the churches of St. Eustache and St. Étienne de Mont for the last; for these two churches are certainly the most beautiful of all the parish churches just described. In St. Eustache the old Pointed style has died out, but has imparted in a most remarkable manner its characteristics of plan, arrangement, vaulting, &c., on a building which is really Classic in detail. In St. Étienne the Pointed style still prevails as far as the arches, which rest on cylindrical piers, the mouldings dying into them. The axes of the nave and choir here are not parallel. Between the nave and choir is a wonderful architectural *tour de force*, in the shape of a *jubé*, or rood-loft, with winding staircases, and the stained glass is the finest in Paris. Both here and at St. Eustache there is a curious arrangement of clearstoried aisles, worthy of study by those who have to build town churches. St. Eustache's is the largest church in Paris after the cathedral, and is certainly very beautiful. I know of no interior which can surpass it in dignity. Debased and bad as the detail may be, yet the effect is dignified in the extreme. It is an interior which one can never forget; while all the other Late Pointed churches fade out of memory from their similarity to each other. This interior is the only one which, to my mind, leaves a lasting impression. Some ancient mural paintings of the Renaissance have been discovered in one of the chapels. The west front is still incomplete. Passing along the Rue de Rivoli towards the city, the tower of St. Jacques de la Boucherie forms a very prominent object. Isolated as it is now in the centre of a square, it was once in the very densest neighbourhood. The church to which this magnificent tower was attached has entirely disappeared. The plan was very irregular. It had been rebuilt in the time of François I., having been completed in 1522; and was destroyed in 1797, the tower being preserved for a shot tower, though the image of St. James, which terminated one of the pinnacles, was precipitated to the ground. The tower was purchased by the City for 250,000 francs, and carefully restored, and forms as striking an object in modern Paris as it did in Mediæval Paris. Behind the Hôtel de Ville formerly stood a very large and fine church,—St. Jean en Grève; it had two fine western towers, one surmounted by a spire. The extension of the Hôtel de Ville now occupies this site. Of the church of the Holy Innocents and its famous cemetery nothing now remains. It was on the west side of the Rue St. Denis. There are a number of old views of this fearful cemetery. Surrounded by a sort of cloister, in the centre was a pulpit something like Paul's Cross, and several stone crosses marking separate places of sepulture for communities. The upper parts of the cloisters in the roofs were used for charnel-houses, and the old prints show these literally packed with bones and skulls, of which a very liberal supply lay scattered about in the enclosure. It had its *fosse commune*, in which coffins were stacked, only separated by a sprinkling of soil. On the walls of the cloister was painted the "Dance of Death," and over the portal of the church the legend of the three dead and the three living. This cemetery of the Church of the Holy Innocents must have been a perfect Golgotha; yet the surrounding arcades, all damp and humid as they were, were filled with the stalls of linendrapers, dressmakers, print-sellers, and public scribes. Claude le Petit, in some verses called "Paris Ridicule," gives a graphic description of these horrible charnel-houses. The Church of St. Paul, near the Bastille, has entirely disappeared. The Hôtel de St. Paul, a very beautiful palace of enormous extent, was close by, and the church was very much embellished and enlarged by the successive sovereigns who were necessarily parishioners. The font in which Charles V. and Charles VI. were baptised has been preserved. Two very illustrious persons were here interred,—Jean Nicot, the first introducer of tobacco, to whom I am sure the thanks of posterity are due; and Rabelais. The Church of St. Honoré has left a name only behind; and on the left bank of the river the churches of St. André des Arcs, St. Benoit, St. Côme, St. Étienne des Grès, and St. Marcel have all gone. In closing this account of the parish churches, it is impossible to avoid a comparison between them and our London churches. The enormous size of these Parisian examples strikes one with astonishment, but it must be remembered that Mediæval Paris was much more densely populated; a greater number of people lived in a given area. Each house teemed with life from "cave" to "grenier," from cellar to loft. Separate dwellings for each family have always been the rule in London. Another feature is the enormous quantity of old stained glass still left in the churches. Paris never felt the fury of the iconoclasts as some other parts of France; indeed, it was the excesses committed elsewhere by the Huguenots which exasperated the Parisians to wreak that fearful vengeance of St. Bartholomew. The period of havoc and destruction was the end of the eighteenth century, and, considering the fearful excesses of those mobs, bent upon eradicating every *souvenir* which would remind them of the past, it is surprising that Paris should still contain so much.

The ancient Hôtel de Ville occupied the same position as the present building; the centre portion of the west façade was then represented by three gables with traceried windows, flanked by two turrets with spires and vanes, and was supported on the ground floor by stone pillars. It was more generally known as the House of the Pillars than as the Hôtel de Ville. A very quaint view is preserved of this building, with the whole place in which it is situated, called the Place de la Grêve,—in the centre of which the last dread sentence of the law was carried out,—and such sentences were pretty frequent in those days.

The situation of the ancient palace on the Ile de Cité has already been referred to. It only remains to describe the palace, a great deal of which still exists, although masked by modern buildings of the principal law-courts of France. The chief gem of this palace was the chapel, happily still existing, and known as La Sainte Chapelle, from the extreme sanctity of the relics purchased from Baldwin, emperor of Constantinople, by St. Louis, and here preserved. The principal of these relics are the Crown of Thorns and portions of the true Cross. The chapel is of two stories, and the undercroft or crypt, like that of St. Stephen's, at Westminster, is level with the ground, not beneath it. The chapel is apsidal in plan, without aisles. There are, first, four compartments, each filled with superb four-light traceried windows, and boldly-projecting buttresses; and then an apse divided into seven compartments, with two-light windows, vaulted throughout in each story, and externally surmounted by a high-pitch leaden roof, with a central flèche of carved oak and lead work. This is but a meagre description, but doubtless the building is so well known that it would be superfluous to add more. If one desired an example of perfection in our special art of architecture in the Middle Ages we should find it here, for in this building the subtle beauties of proportion, scientific skill in construction, harmony of parts, and splendour in decoration, are as distinct witnesses of that perfection in those days as the Parthenon is of the perfection attained in the days of Pericles and Phidias.

Facing the quay at the corner of the Rue de la Barillerie is the ancient clock-tower, and continuing westward from that are several old walls and towers, especially that known as the Conçiergerie, where Marie Antoinette was imprisoned prior to her death. The immense hall called the Salle des Pas Perdus, lately burnt by the Communists, was formed within the ancient walls of the great hall. Unlike Westminster, to which it bore some resemblance in other respects, it was divided by a range of columns down the centre. At one end, corresponding to the daïs, was the table of white marble, where

the king formerly dined, surrounded with the great vassals of the crown; and at the other end was an altar, erected by that most miserable of monarchs, Louis XI. The palace covered a very large extent of ground, and in the façade facing the Rue de la Barillerie was the parish church of St. Michael of the Palace. Close adjoining to the Sainte Chapelle was another beautiful little building, destroyed in the fire of 1610; it served as sacristies and muniment-rooms.

Of the Palace of St. Paul nothing remains; and of the many splendid palaces or hotels of the nobility, only the Hôtel de Cluny, a portion of the Hôtel de Sens, and a fine square tower belonging to the Hôtel de Bourgoyne. One of the finest of these, the Hôtel de la Trémouille, has only disappeared within these few years. The Mairie of the Fourth Arrondisement occupies a portion of an hôtel formerly belonging to the captain of the watch.

During the Middle Ages, the colleges of Paris formed a very important quarter. They have now, with the exception of the Sorbonne, nearly all gone; but a few remain, diverted to other uses. Had it not been for the fearful feuds which rent Paris in pieces during the fifteenth and sixteenth centuries, they would all have been in as active a state as those of Oxford and Cambridge to this day. Religious differences also contributed to their decadence. The colleges were always on the side of the liberties of the Gallican Church against ultramontane encroachment, and when the Court and clergy openly espoused the cause of the latter, the strife was too unequal. Dante studied here. The names of the most famous of these colleges were those of the Sorbonne, Narbonne, Bayeux, Séez, Harcourt, Bernardins, which latter had a particularly fine church, founded by Stephen of Lexington, an Englishman. A portion of the buildings exist, used as a fire-brigade station. The college of Cluny had been designed by Pierre de Montereuil, and would have vied with the finest at Oxford or Cambridge; traces remain, and some tombs are in the Musée de Cluny. The college of Beauvais preserves its chapel, a very beautiful model for a college chapel, now desecrated. There were many others of less renown.

In the Hôtel de Cluny, that most perfectly preserved of all these ancient buildings, the eye rests on Roman, Gaulish, Merovingian, and Carlovingian relics, discovered from time to time. Antiquities of Norman and Early Mediæval times are strewn around. Every age has left its mark behind, and the student in architecture and ecclesiology has no difficult task in tracing the progressive history of Paris from age to age, perhaps with regret for that which is lost, not by the decay of time, but by the violence of those paroxysms of fanatical fury which have so often disfigured the face of fair Lutetia.

In the discussion which followed,

Mr. R. Phené Spiers proposed a vote of thanks to Mr. Birch for his paper. The Mediæval antiquities of Paris were unfortunately few and far between, and generally hidden away in such a manner as to escape the notice of the casual visitor, and even of those who resided there for some years. Comparing Paris with a French provincial town, such as Bourges, there were very few ancient remains; while in Bourges, for instance, the proportion of old to new buildings would be (say) one to twenty, in Paris the proportion would be probably one to 2,000. He (Mr. Spiers) was not aware that any portion of the Salle des Pas Perdus destroyed during the Commune dated further back than the seventeenth century.

Mr. Birch said the walls were older.

Mr. Spiers said that, if so, they must have been encased. Even those who had been long resident in, and were tolerably familiar with, Paris, would occasionally, in passing along the new boulevards which had been pierced through the city, get glimpses of old buildings the existence of which they had never suspected,—not, as a rule, Mediæval buildings, but buildings 200 or 300 years old, and affording valuable and interesting examples of the old domestic architecture of Paris. Mr. Birch had very properly called the attention of students to the points of most interest and value to them in the buildings which he had described. For instance, in the Church of St. Eustache, the student might learn valuable lessons in proportion, although the detail was certainly not of the best. In the Church of St. Etienne du Mont, the Renaissance carving was well worthy of attention. He cordially agreed with all that had been said by Mr. Birch as to the value of the Cluny Museum, part of which, the Palais des Thermes, was of Roman date, and very faithfully showed the arrangement of Roman baths such as those of Caracalla. A visitor to the Museum could become acquainted with the whole of the details and furniture of Gothic houses from the fifteenth century onwards. In fact, the Museum contained a large variety of objects of the greatest possible value to the architectural student.

Mr. Gilbert R. Redgrave, in seconding the vote of thanks, said that Mr. Birch's paper would be of great value to students when they next visited Paris, inasmuch as it contained a mass of architectural information not to be found in "Murray." One fact with reference to the old buildings of Paris, and French towns generally, which deserved attention, was the careful way in which the authorities looked after them. It was true that these old buildings often had to be removed to make way for modern improvements,—Paris, for instance, as every one knew, had been perfectly riddled with new streets, entailing the removal of many historical buildings; but in every such case careful drawings were made, and some of the most interesting examples were preserved in museums and elsewhere.

Mr. Elkington, in supporting the motion, said it was satisfactory to find that so much of old Paris still remained, in spite of revolutions and modern improvements.

Mr. Hampden W. Pratt said that it appeared from Mr. Birch's paper that the majority of the old buildings remaining in Paris were ecclesiastical, the only exceptions being the Cluny Museum, the Hôtel de Ville, and one or two others. The churches seemed to be very debased in style. As to some of the Late churches which had been pointed out, it was very difficult to realise that they were old buildings at all, owing to the way in which they had been concealed by colour. It was greatly to be regretted that such a beautiful building as the Sainte Chapelle should have suffered so fearfully as it had from that cause. The colour on the walls and that of the stained glass did not harmonise at all; and the building seemed to be kept more like a "show-place" than anything else. It was lamentable to find that so many of the churches which once existed on the Ile de Cité had passed away. The destruction of churches which had taken place in this, the centre of Paris, was far greater than had taken place in London. We had more churches of archæological interest in London (notwithstanding the Great Fire) than existed in Paris.

The President, in putting the vote of thanks to the meeting, said that the Association was particularly indebted to Mr. Birch for his paper, not only on account of the interesting information it contained, but because Mr. Birch had, on an emergency, come forward with it a fortnight earlier than he had promised.

The motion having been carried,

Mr. Birch briefly replied, expressing his indebtedness to Mr. Atkins, Mr. Jones, and others, for the assistance they had rendered him in preparing plans, &c., in illustration of the paper.*

ON FOREIGN COMPETITION.

FOREMEN ENGINEERS AND DRAUGHTSMEN.

AT the twenty-sixth anniversary festival of the London Association of Foremen Engineers and Draughtsmen, Mr. Richard Christopher Napier, C.E., presided.

In reply to a toast proposed by Mr. Joseph Newton, the president of the Association, "Engineering Employers in Town and Country,"

Mr. W. H. Bailey, C.E., of Salford, responded. He said that he could not forget what Manchester engineers owed to London. Accuracy, precision, and fine finish in our machinery had been inherited from Maudslay and other old London engineers, for scarcely a well-known name in Lancashire could be named without our being convinced of the fact. Hick, of Bolton, Sir Joseph Whitworth, that grand old image-breaker Richard Roberts, and many others, had received their first apprenticement to sincerity and fidelity, which are the proper terms for accuracy, and which, above all, he claimed to be the most remarkable features of Manchester-made machines at the present day. These recollections inspired him with confidence, for as Mr. John Bailey, his father, had been closely identified for years with the many inventions of old Richard Roberts, he claimed, with all the pride of ancestral dignity and blood, to be in London and rejoice where grew the family tree. He had never before addressed so influential an audience, representing so many important interests. He ventured to say a few words on the present commercial depression. Several speakers had alluded to it; and many minds in this country,—that is to say, minds worth the title,—are turned in that direction. There was a more profound unanimity of purpose in their thoughts than in anything which had engaged the attention of man for many long years. It was proper that we should, with all humility, with all care, and with a proper scientific spirit, inquire into the causes of our want of prosperity. It might do us some good to do it with a melancholy spirit, but that to him was a matter of doubt; but we have been grovelling and debasing ourselves. We have lain down in the gutter and requested to be kicked; we told the foreigner at our meetings, through the press, in the senate, and at the street corners, that we were being beaten; that the imperial pride of Englishmen to be considered the manufacturers and merchants of the world was decaying; that our glory was departing from us. This was advertising ourselves in a most improper manner, for we clearly told all foreigners to go to the United States, and to any other foreign country for goods, because they could be bought cheaper and better there than here. It was stupidity so profound that it became almost grotesque if it were not for the painful side of the subject, and that was that it was untrue, its only result being to aggravate the disorder. All sorts and manners of men not engaged in trade, ventured an opinion; members of Parliament and prelates had given advice which should be accepted at its value, just as coals from a particular pit have a value; but so much has been said about United States competition, a few words may be useful. In 1876 we exported from England of manufactured iron to the value of 19,000,000*l.* sterling. The American exports for the same period came to 1,000,000*l.* The exports of machinery, such as agricultural, mowing, sewing, and other machines of this country, came to 7,600,000*l.*, those from America came to 1,500,000*l.* Some time ago all the sewing-machines used in Europe, indeed in the whole world, were made in the United States; they sold at high prices, but during the past few years the trade in sewing-machines of the United States manufacturers had rapidly decreased in this country. It is as well known that for a long time the machine that was sold retail in New York at 8*l.* was sold retail in the shops of Liverpool at 6*l.*, both machines being made at one works in America. This lowering on price was the result of English competition. At last the competition became unbearable, and what did the chief sewing-machine makers do? They acted like wise men, and built factories in Glasgow, in Coventry, in Manchester, and came here to employ Englishmen, for that was the only way they knew of to meet the tide of English competition. Howe established works, so did Singer, and others have followed. I venture to make this assertion, that in the boot and shoe manufacturing districts of England, Bristol, Northampton, Stafford, and at Leicester, the machines made by Englishmen, and sold at English prices, are the only machines that are being bought. A great deal had been said about American padlocks. They were not as cheap as an English lock; they were no better made; and it was simply American ingenuity displayed in getting our papers here to advertise their wares without payment. When our workshops were so full, four years ago, that engines, tools, and machines could not be got for love or money, foreign nations began to compete; and Mr. Bailey said he sent to Boston and Philadelphia even for lathes and chucks, and slide-rests; but at what cost? At fully 30 per cent. more than they can be purchased in this country. Pumps of American make were being sold some time ago at 20s. and 25s. each, but that has stopped, for you can get them now at 15s. and 12s. 6d. each; and if any one will order a dozen, he will have 25 per cent. discount, and 2½ per cent. for cash in a month, and these are heavier and better made than the flimsy things from the other side of the water. About our textile manufactures much has been said. Well, if we put together all the Americans send abroad; add up all things made from fibre; all things with weft or warp; everything having longi-

* In first part of Mr. Birch's paper, printed in the *Builder* last week, for "Porte Boriga" (p. 318, middle column), *read* Porte Rouge.

tudinal and latitudinal meshes, everything with tissues, composed of either animal or vegetable growth,—all those things, from a yard of calico to a door-mat,—add them all together, and a cotton-mill can be found where I come from in Salford, that produces more in value than the United States export in the year. So much for competition in that direction. Then let us turn to our iron manufacturers, who cannot be accused of lethargy; but they can be accused of having a disinclination to deal in half-ounces of iron, they can be accused of a wish to do their business in a wholesale manner; and when they have been busy on fixed patterns they have felt disinclined to alter their rolls and their methods of manufacture for an order even for the whole iron in a town-hall, or for all the girders of an exchange; and even when trade is bad, certain patterns, produced to special conditions, may be had cheaper from one place than another; and very often in these little orders those who keep the worst set of books get the order, and execute and pay for the material in the bankruptcy courts. We have heard of Belgian competition; we have heard of orders for girders being executed at 1s. a ton below ours; but what about the balance-sheets of those firms who have so acted? On the Manchester Exchange printed calicoes have been offered at low prices, and of a quality, design, and colour that, according to Ruskinite taste, would only please those men whose instincts were sanguinary, and whose tastes were either undeveloped or deformed; these were offered at low rates by American bankers, but further supplies could not be got at the same prices, for reasons which will be seen. There is not the monotony of uniformity in a pawnshop which may be found in a Manchester soft goods warehouse. This country is the birthplace of leisure. Man can think only when the body has rest. There never was rest until Englishmen created it by placing in bondage the great black slave, the steam-engine. Thus has the mind endowed the body, and thus, if we are sincere, shall we benefit still further the whole human race:—

> "For, I doubt not, through the ages one increasing purpose runs,
> And the thoughts of men are widen'd by the progress of the suns."

We are at the present moment so revolutionising our iron manufacture that shortly steel will be cheaper here than iron in any other part of the world. We have to disestablish. Now I must (said Mr. Bailey) pronounce for disestablishment. By that is meant the destruction of the chimney, that monument of profligacy and ignorance, the chimney that wastes 90 per cent. of our coal; the chimney that soots our architecture; the ugly pile that makes sallow and pale the faces of our women and children, and pollutes the fair face of nature. This must be got rid of, and heat and energy must be used on scientific principles. This can only be done by testing all things by first principles; the heat must be used direct, and boiler-makers be done away with. He then, in a vivid manner, described the electric light, and, amid roars of laughter, said it was a clumsy waste of energy, and only one step in advance of the poor troglodyte of the old stone age, who got a light by friction with a wooden drill and a stone. In conclusion, the speaker said of the foremen engineers that he knew of no force or process that would be such a definite mental measure as that of the gradual advancement of a foreman or manager. Neither accident of birth, nor the influence of friends or relations, nor the value of good looks, would do any good in climbing the heights that lead to the chieftainship of an engineering workshop; only the knowing ones,—which was the origin of our ancient kings' title,—only those whose genius and industry, and honesty and sincerity, were marked by strong lines of individuality, ever attained the honourable distinction which many in that great audience possessed.

A Shakspeare Portrait.—A portrait, said to be of Shakspeare, has been discovered at Sydney. It has been insured for 5,000*l.*, and has been packed and shipped for England. Moreover, it is said to be the missing portrait, and has upon it Jun, Jan, or Jon, 1611. We have seen a photo from the portrait, which exhibits a bright and intellectual look. It must be in good preservation. The picture will, however, have to run the gauntlet of criticism on its arrival.—W. C. T.

BYE-LAWS UNDER THE METROPOLITAN BUILDING ACTS.

As our readers know, the Metropolitan Board of Works is empowered, by the Metropolis Management and Building Acts Amendment Act, 1878 (41 & 42 Vict., ch. 32, sec. 16), to make certain bye-laws as to the sites, foundations, materials, and modes of construction of buildings in the metropolis, "for securing stability, the prevention of fires, and for purposes of health." The statute provides that such bye-laws, or any amendment or repeal thereof, shall be advertised once at least in each of two consecutive weeks, in two or more newspapers circulating in the metropolis, and that any person affected by any such proposed bye-law may forward notice of his objection, which shall be taken into consideration before the bye-laws are confirmed. In the *Times* of the 28th of January the Metropolitan Board of Works advertised the bye-laws which they have made under the Act, and gave notice that at the expiration of two months they would apply to the Home Secretary to confirm such bye-laws. So tardily as to be "almost in time to be too late," a number of builders, principally carrying on business in the suburbs, have discovered that, as they allege, their interests and those of the public will suffer by the confirmation of the bye-laws, as such confirmation will give to them all the force of the provisions of the Building Acts. Accordingly, a public meeting of builders, to consider the "oppressiveness" of the proposed bye-laws, was held at the Guildhall Tavern, Gresham-street, on Tuesday evening last, the number of persons present being from 120 to 150.

Mr. Morgan Howard, Q.C., was called upon to preside, although, as a "non-combatant," he judiciously refrained from entering into the technicalities of the subject, confining his remarks to the expression of his opinion that if it could be clearly shown that any of the bye-laws framed by the Metropolitan Board of Works were unnecessarily or unduly exacting, and likely to prejudicially affect the interests of builders and the public, the Home Secretary would not sanction them. Indeed, he was of opinion that the Board, as the representatives of the public, were only concerned to promote the public welfare, and that if any reasonable objections could be urged against any of the bye-laws, they would probably withdraw or modify their proposals.

Mr. J. Goodman moved the first resolution, as follows:—

> "That this meeting is of opinion that several of the bye-laws proposed by the Metropolitan Board of Works are unnecessarily stringent and oppressive, and if strictly enforced would seriously add to the cost of all buildings, and thereby increase the rents, especially of those houses occupied by the middle and working classes."

He observed that he had not met with one practical man, whether architect, surveyor, or builder, who had not condemned the proposed bye-laws as impracticable in their working and oppressive in their bearing. A great deal had been said,—unkindly, unwisely, and injudiciously said,—more especially by local journals, with regard to what were termed "jerry" builders; and he was very grieved indeed to see that so respectable a paper as the *Builder* should have lowered itself by using that word.* Now, he disliked "jerry" building as much as any man. He abominated a bad building as he abominated a bad sovereign. To many of the proposed bye-laws no opposition would be offered; but there were others which, if sanctioned, would render large tracts of land around London utterly valueless for building purposes. For instance, the first bye-law provided that if land had been raised by shooting upon it road-slop or refuse of any kind, such land should not be used for building until the whole of such rubbish, slop, or refuse, had been removed. They looked upon that as a very great hardship,—although perhaps not one of them might be interested in land of that description. Why, many building sites around London could never have been built upon at all unless they had been raised by such means! The second clause of the first bye-law provided that the site of every house or building should be covered with a layer of concrete 6 in. thick. He contended that such a stipulation was most arbitrary. It might be all very well to enforce such a provision on an unhealthy site, but there was neither common-sense nor wisdom in making it compulsory to use a layer of concrete when building, for instance, upon a good hard bed of gravel,—which, for all practical purposes, obviated the necessity of concrete in such a position. The third section of the same bye-law provided that the footings of the walls of every house or building should be laid on a bed of concrete not less than 1 ft. thick, and projecting 6 in. on each side of the lowest course of the footings. That, again, was a most unnecessary and oppressive stipulation. The fourth section of the second bye-law stipulated that "the mortar to be used must be composed of good lime and clean sharp sand which shall have been properly washed." Why, he ventured to say that no one in that meeting, although many of them had had upwards of thirty years' experience, had ever known of washed sand being used for making mortar in building ordinary houses. That bye-law evinced a want of thought and an absence of practical knowledge that would be a disgrace to a bricklayer's boy. Excellent mortar could be made of burnt ballast and brick rubbish in lieu of sand; but the magistrates, owing to their want of practical knowledge, were entirely led by district surveyors, or perhaps by Dr. Johnson's Dictionary, in deciding what was or was not, mortar. There would have been some sense in enacting that the mortar used in building, of whatever materials it might be made, should be of a certain minimum strength. The same bye-law contained the laughable provision that the external walls of every house "shall be built of good square, hard, sound, and well-burnt bricks," and it went on to say that "malms" might be used for arches. The effect of that would be that never more could a malm front be built. Another provision, quite as absurd, was that hard, square stocks, well burnt, shall be used for all foundations. Now, if it were possible for a brickmaker to make all bricks perfectly bright and square, such a stipulation would be all very well; but why, in the name of all that was practical, were imperfectly-squared bricks, no matter how hard and well-burnt they might be, no matter how well adapted to resist pressure and to preclude damp from rising,—to be prohibited from being used in foundations? Where were all the irregular shaped bricks to go? The fifth section of the second bye-law seemed to have been framed chiefly in the interest of Portland cement manufacturers. He would not enter into the details of those modifications of the bye-laws which were essential to the well being of the trade and to the public interests, as they would be duly considered by the committee to be appointed by the meeting, and would be laid before the Home Secretary. He strongly denounced the fourth bye-law, which provides that in every case in which proceedings may have been taken by the district surveyor to prevent the evasion of any of the bye-laws, a fee of 10s. shall be paid to the district surveyor. That was a most retrograde movement, and reduced the district surveyor to the position of an informer. He also condemned the fifth bye-law, as to the deposit by builders with district surveyors of the plans of every building or addition they put up. Such a provision was most vexatious. Hundreds and thousands of houses had been erected by practical men without any plans on paper. The practical man knew what he wanted, and carried his plans in his eye. Another bye-law proposed that "there shall be paid to the district surveyor, in respect to his supervision of every concrete building, a fee one-half more in amount than the fee to which he would be entitled under the Building Act for new buildings or additions." Why? Was such a stipulation intended to discourage the use of concrete? Did it involve more trouble and labour to inspect a concrete wall than one of brick? In conclusion, Mr. Goodman said they were there to oppose these bye-laws because they were impracticable and inexpedient, and because, while adding greatly to the cost of houses, they constituted a perfectly unwarranted interference with free trade and liberty in building.

Mr. F. Sutton, in seconding the resolution, provoked some laughter by confessing that he was so young and inexperienced a member of the trade that he never, until the other evening, heard of the term "jerry" builder. He opposed the bye-laws which had been framed by the Metropolitan Board in the interests of the public as well as in the interests of the building trade. Such regulations would add from 15 per cent.

* The word has been used in the *Builder* in the sense in which Mr. Goodman and subsequent speakers used it,—to denote bad or "scamped" building, whether as to materials or construction. We take occasion to say that during the latter part of last year we devoted considerable space to the discussion of these bye-laws, so that the builders who are now moving might have known long ago what was proposed.

to 20 per cent. to the cost of houses for the poorer and lower middle classes. They as a trade were willing to do all that was reasonable to conduce to the public health and safety, but would oppose all unnecessary restrictions and trammels, which could only have the effect, seeing that wages were 20 per cent. higher in London than in the country, of driving investors away from building operations in London. Upon increased cost of building in London increased rent and rating would follow, and how were the great mass of the people to meet such increased expenditure?

Mr. Hyde supported the resolution, which was carried unanimously.

Mr. J. Higham proposed the second resolution,—

"That in the opinion of this meeting no further restrictions should be placed on buildings, either by Parliament or by any local authority, than are necessary for the protection of health and the public safety."

He denounced the bye-laws as "paternal" legislation and espionage, and suggested that they would be all very well if they were permissive instead of compulsory. But, even if it could be shown that such regulations were for the public welfare, why confine them to London?

Mr. W. P. Goulding seconded the resolution, and said that the proposed bye-laws seemed to be a cross between the Weights and Measures Act and the Adulteration Act.

The resolution was carried unanimously.

Mr. J. Williams moved the third resolution,—

"That a Committee, consisting of Messrs. J. Goodman, F. Sutton, E. Yates, J. Williams, W. P. Goulding, S. J. Jerrard, S. Sansom, E. P. Nunn, C. Hunt, W. Garside, W. Hudson, and E. Wills, be appointed (with power to add to their number), to represent to the Home Secretary the opinions of this meeting, and to urge upon him the importance of not sanctioning the proposed bye-laws unless such modifications be made therein as may be suggested by the Committee."

He said that, speaking as a brickmaker as well as a builder, if "grizzles" were not saleable (because not usable under the bye-laws) the price of "stocks" would be something like 60s. per thousand.

Mr. E. Yates seconded the resolution, and urged that the trade ought not to be fettered by such bye-laws as those proposed. The question was far more one for the public than for the builders, for the bye-laws would add greatly to the cost of house-building, and consequently rentals would be increased. To the builder it did not much matter what materials he put into his houses so long as he got his money for them. He knew there was a prevailing idea that speculating builders made a lot of money by building bad houses, but such an idea was fallacious, for what class of tradesmen appeared in the Bankruptcy Court in such numbers as the builders of "jerry" houses did? The fact was, the builder who provided a good article was, as a rule, more prosperous than the man who "scamped" his work. He had no doubt that the Metropolitan Board of Works had framed these bye-laws with the best intentions, but they did not understand what they were doing. Their stipulations would have the effect of increasing the cost of six and eight roomed houses from 15 per cent. to 20 per cent.; and to pay the increased rental which would result, the children would have to go shoeless, and the cupboard would be without bread and cheese. In fact, the tendency of the bye-laws would be to half-starve a man and his family in order to allow them to live in a well-built house. He contended that the cheap houses so much in demand satisfied the public.

Mr. Higham having announced that a communication had already been made to the Home Secretary, asking him to withhold confirmation of the bye-laws until the committee had represented to him their case against them, the resolution was carried unanimously.

Mr. J. Goodman proposed the fourth resolution:—

"That an association be now formed, to be called the 'Suburban Builders' Association,' to protect the trade against oppressive legislation, and to take up all cases on behalf of the members of the Association where the official surveyors endeavour to act oppressively in the enforcement of existing laws. Subscriptions to be not less than 10s. per annum (firms, 1*l.* 1s.); and that the committee appointed in the former resolution be the first committee to organise the Association."

He said that such a society as that contemplated in the resolution was *the* thing that had long been wanted amongst builders. While they were willing to comply with all reasonable requirements of the law, they must be united in their determination to resist all arbitrary and high-handed interference with them by district surveyors and others. At the same time, the builder who refused to conform to just and proper requirements in building would be tabooed by the society.

Mr. W. Garside seconded the resolution, which was enthusiastically carried.

In acknowledgment of the customary vote of thanks, the chairman promised to use his influence in obtaining due consideration of the objections urged against the bye-laws; and a large number of those present having enrolled their names as members of the new society, the meeting terminated.

STATE OF SYDNEY.

THE *Sydney Morning Herald*, with reference to a letter we printed some little time ago, says, "We find, occasionally, that disparaging and unfair remarks concerning us are permitted to appear in respectable English journals, and that the defects of the colony are ostentatiously displayed. We can, no doubt, live down the former, and the remedy for the latter is to remove them, seeing that they afford so much scope for unfavourable criticism;" and then wisely adds,—"We ought to do this as far as possible before we receive from all parts of the world visitors who will flock to the International Exhibition." The *Herald* continues:—"A few months ago a writer in the *Builder* gave a description of Sydney from a professional point of view. He speaks of the place as the queen of English cities, and remarks that, on landing at the Circular Quay a person is in the midst of some of the noblest architecture in the empire. He comments on the distance from the harbour to the railway terminus, and upon the 'atrocious streets,' and almost everything connected with building he condemns in unmeasured terms, such as might be expected only from a man who had accepted a losing contract. The roads of the city are certainly very rough and very dirty, but it is not true that 'they are made of sandstone.' The city pavements, he says, are flagged 'with the same disintegrating stone.' This is true to a large extent, and it is also true that they are exceedingly irregular. All these things, however, may be remedied with little delay. The roads may be put into fair order and kept decently clean; and, so far as the footpaths are concerned, the city council will deserve severe condemnation unless they see that the principal pavements are put in perfect repair. Many persons imagine that the reason why the footpaths in the principal streets are defective is to be attributed to the impecuniosity of the city council. This is not so. In many cases the badness of the pavements represents only neglect of duty."

"Referring generally to the building trades, the writer in the *Builder* says that in this respect 'the conceit of the Sydneyite' is particularly noticeable,—that the good example set by London is derided,—that the Sydney people 'go their own way about building, and make a sorry mess of it.' Here is a mixture of truth and error, and we fancy that visitors to our International Exhibition will be more inclined to admire than to discredit the building capabilities of a people who have been able to rear the elegant and substantial business and public edifices which meet the eye, and the suburban dwellings which give evidence of taste and refinement." . . . . "It must be admitted, however, that we are sadly in want of a Building Act, and we imagine that the irregularity of Sydney architecture is one of the things which will forcibly impress our visitors. They will wonder how it is that we can permit the existence of anomalies such as may be witnessed on every hand. Time will not admit of an immediate rectification of this matter, but it is one of those things which ought to command the attention of the Legislature without unnecessary delay." . . . .

"There is one point upon which we cannot join issue with the writer; we must admit that our sanitary arrangements are 'shamefully bad' and far inferior to those prescribed by Moses. For many years past, though, the necessity for municipal and sanitary reforms has been fully admitted here. We have always been going to do the work required, but it is not actually commenced. Articles like that to which we have referred may answer useful purpose if they stimulate us to proper action."

This is the right spirit in which to receive such observations as those of our correspondent, who, according to the *Herald*, is not so very far wrong after all. We ask the people of Sydney to believe that we fully appreciate and admire the remarkable progress made by the colony, and that in admitting or making comments on any apparent shortcomings, we are but continuing the course we pursue in the mother country, with the same anxious desire not to damage and annoy, but to aid and improve.

SANITARY WORK IN ITALY.

Now that Rome is no longer a source of political discord and civil war, but has at last become once more the capital of Italy, we may anticipate with some confidence the early realisation of reforms that will have a practical influence on the well-being of the Romans themselves. Something must be done to increase the salubrity of the Eternal City, and render it more worthy of taking its rank among those great capitals of Europe which are the seats of legislative, scientific, and artistic progress. Should the capital of Italy long remain subject to malaria and endemic diseases, arising from imperfect administration, defeated politicians who regret the ancient *régime* will not fail to derive arguments against the triumph of liberal principles from the continued prevalence of preventible disease. Hence many Italians have manifested a strong desire to participate in the sanitary progress achieved by the various nations of Europe. No sooner had the two great French sanitary associations been formed, than a number of Italians joined the movement, and displayed a considerable enthusiasm. The Société Française d'Hygiène, and the Société de Médecine Publique et d'Hygiène Professionnelle, both boast of a large number of Italians in their long lists of members. Finally, when the second International Congress of Hygiene met in Paris, the Italians, profiting by our own unreadiness, seized the opportunity of securing for Italy the honour of acting as host at the next Congress. Of course we are aware that the condition of Italian towns, from a sanitary point of view, is absolutely lamentable; but, we note also, and with pleasure, these symptoms of awakening, which give serious promise of at least partial improvements. Even the Condotti doctors of Italy, though they have received no special instruction in matters relating to hygiene, are, through the agency of their National Association, making laudable efforts, first to raise their social position by the acquisition of necessary knowledge; secondly, to render real service in the sanitary administration of their respective municipalities. If, however, the efforts of these medical officers are not supported by new and more stringent sanitary legislation, the results will be very meagre. Again, the eminent physicians who held a Medical Congress at Turin, in the year 1876, devoted a considerable portion of their time, under the presidency of Dr. Toscani, of Rome, to the discussion of practical questions relating to the preservation of public health, —the drainage of cities and the pollution of water-courses holding prominent place among these subjects. The Congress, before parting, adopted the following resolution, which somewhat exemplifies the feeling of the members:—"The section of Public Medicine, while recognising that the bad repute of the climate of Rome is not based on a thorough knowledge of the facts of the case, nevertheless urges upon the Government and Municipalities the necessity of studying carefully the hygienic position and special features of the various districts of the kingdom. To all these authorities appertain the right and the duty of initiating wise reforms, of preparing intelligently the required statistics, of clearing away all that can occasion illness and compromise the public health."

As a more permanent effort, we must also note the formation of an Italian Society of Hygiene. Dr. G. Pini, of Milan, is one of its most active members, and from him we learn that the Society has been divided into eight sections, each undertaking to study more particularly a special phase of the general subject. The first section is devoted to general and experimental hygiene; the second discusses all laws relating to the preservation of public health; the third, private or domestic hygiene; the fourth embraces the wide question of the spread of disease, epidemics, &c.; the fifth studies the sanitary measures calculated to cure existing disease; the sixth section is busy with the care of childhood, the sanitary condition of schools; the seventh investigates the effects of various trades, crafts, professions, on the health of the workers;

and, finally, the eighth section collects sanitary statistics, and topographical and medical evidence concerning the health of nations. From this enumeration of the duties of these various sections it will be seen that the Italian Society of Hygiene has adopted a broad and well-conceived programme. If the studies so admirably planned out can be carried to a practical issue, we may anticipate many beneficent results. Unfortunately, in Italy, perhaps more than elsewhere, there are two almost insurmountable obstacles in the way. The first and most difficult to overcome is the fatal ignorance and indifference of the masses, the second the lack of funds to defray the cost of sanitary improvements.

Contemporaneously with these meetings and public demonstrations, we have a marked increase in the number of works published bearing directly or indirectly on sanitary matters. Apart from such periodicals as Professor Paolo Mantegazza's newspaper entitled *Il Medico di Casa*, we might mention Dr. Ferretti's "Medical Topography of the Province of Florence," the work of Dr. Brugnoli (of Bologna) on the popular epidemics from 1872 to 1876; the publications of Dottori Ramello e Brambilla (of Turin) on "Communal Administration and the Vaccination Question"; then Dr. Faralli (of Florence) has a work on the "Climate of the Trentino," and there are many other books too numerous to mention. The *Monografia della Citta di Roma* is, however, the most important of all these works. It is published under the general direction of the Italian Statistical Bureau, and is the collective work of some among the most competent specialists of the Peninsula. This volume gives us some notion of what has been done and attempted since September, 1870, and explains the exceptional difficulties which must be overcome before Rome shall be free from endemic malaria. In the *Monografia* we find this question treated by a great variety of authors. Signor F. Giordano has a chapter on the topographical and physical conditions of Rome and the Campana. Considerations relating to malaria are also embodied in the treatises on the agriculture and pasture lands of the province of Rome; these again figure in Signors E. Rey and G. Sormani's dissertations on the causes of death. When Signor Mantovani summarises the geological condition of this celebrated country, when Signor A. Betocchi studies the course of the Tiber, and Signor G. San-Ferrari resumes the results of meteorological observations, one and all supply important data to those who are bent on reforming the sanitary condition of Rome and the Campagna.

At the very outset, we notice, however, a strained effort to prove that Rome is not an unhealthy city. Signor Baccelli urges that there are only certain quarters of the town which should be avoided, and that only during the months of June, July, August, and September. If we doubt these assertions, we are told to look at the children brought up in Rome, any of whom are so perfect from a physical point of view that they constantly serve as artists' models. This is a most fallacious argument, particularly as the death-rate of Rome varies from 35 to 36 per 1,000. We have in London unhealthy quarters where the death-rate has been estimated at 52 per 1,000; yet the death-rate of the metropolis, as a whole, may be put down roughly at 22 per 1,000. All that can be said is that Rome would probably become a healthy town if there were money enough to accomplish the great sanitary works which are generally recognised as indispensable. The banks of the Tiber must be elevated; the waters that create damp must be captured at their source and diverted into canals that will dispose of them harmlessly. These works are the more necessary as the population of Rome is evidently destined to increase at a rapid rate. In 1874 there were 248,000 inhabitants; the following year the number was estimated at 256,000, and it exceeded 262,000 in 1876. If this rate of progression continues, two generations will suffice to raise the population to 1,000,000. There are now nearly 1,000,000 inhabitants in Berlin, but the actual capital of the German Empire scarcely possessed a population of 180,000 at the beginning of the century.

Whatever may be said in favour of the capital, it is impossible to deny the unhealthiness of the surrounding country. Most wisely and properly, the first care of the Government, after the capture of Rome in 1870, was to issue a commission of inquiry as to the best means of redeeming the outlying rural districts. The reports of these commissioners served as the basis of a project for the irrigation, &c., of the province; and another project, due to Parliamentary initiative, was adopted by the Senate on the 18th of May last, but has not yet been approved by the Chamber of Deputies. It is proposed to dry up the marsh land, and remove the stagnant waters of Ostia, Maccarese, Tatari, Stracciappe, and the low valleys of Almone, Pantano, and Baccono. A series of canals will be constructed to take the waters at their sources, and distribute them according to the requirements of agriculture, preventing thus the stagnation so injurious to health. The expense, it is suggested, should be borne, half by the State, a quarter by the province, and a quarter by each commune. The land-owners will be called upon to contribute in proportion as their property will have increased in value, and this contribution will go to reduce the general taxation. But a great portion of this land belongs to aristocratic families who have neither men nor money to cultivate it properly, and it is therefore suggested that the landowners who cannot work their land in an effective manner should be compelled to sell, at a moderate rate, small plots to farmers who are able and willing to work hard on the soil.

EXCAVATIONS AT DALE ABBEY.

At a recent meeting of the Burton-on-Trent Natural History and Archæological Society, Mr. J. C. Cox, author of "Notes on the Churches of Derbyshire," gave an account of the recent excavations at Dale Abbey. Mr. Cox prefaced his remarks by a brief outline of the history of the foundation of the abbey. Serlo de Grenden, lord of the manor, about 1160 founded a monastery of Austin Canons on the site of an ancient oratory. He also persuaded his godmother to build a church, undoubted traces of which had been found in the recent excavations. But after the church was built the canons took to idle habits and cultivated a liking for the royal deer, which led to their removal. Six canons from the abbey of Tupholme, in Lincolnshire, were then invited to Dale, and the abbey was thus brought under the rule of the Præmonstratensian Order. They remained there for about seven years, but the funds for their support being limited, their prior took to coining false money, and the abbot of Tupholme thereupon recalled them. The abbey was next occupied by five canons from Welbeck, also a Præmonstratensian House, but, after a stay of five years, during which they met with nothing save misfortunes, they returned to their Nottinghamshire home. These various failures to establish a monastery were taken very much to heart by William de Grendon, brother of Serlo de Grendon, who, with his relatives, made another attempt by endowing the monastery with the whole of the manor of Stanley, and nine canons of Newhouse, the chief establishment of the Præmonstratensian Order, were persuaded about the beginning of the thirteenth century to take up their residence at Dale. They built a large and substantial church, and in the recent excavations sufficient evidence had been found that it was a cruciform church with a central tower. From that time to the Dissolution those canons and their successors remained there, and did a good work in their day and generation. By means of a large plan, Mr. Cox then described with great minuteness the result of the efforts of the Derbyshire Archæological Society to unearth the remains of the Abbey. Up to six months ago he said there was nothing to be seen but the lofty arch of the east window standing in the middle of a large grass field. About 5 ft. of earth was removed, and they then came to the foundations of the chancel or choir, two aisles or chapels on the south side, a chapel on the north side, the central tower, the chapter-house, and the north and south transepts. The nave and north aisle had yet to be excavated, but over that portion were cottages and an orchard, so that the work would be a very expensive one. The finding by Mr. St. John Hope of a plan of the abbey drawn by Dr. Stukeley in 1730 led the society to undertake the excavations, and he (Mr. Cox) thought they had been amply repaid by the exceptionally interesting nature of the discoveries. For instance, they had found the high altar, with the exception of the topstone, just as it was used by the monks for 300 years, and they had also found remains of a number of monuments, effigies, brasses, bosses, mouldings, an immense slab of Purbeck marble, and a particularly rich and varied series of encaustic tiles of over fifty patterns.

THE EARL OF CARNARVON ON GREEK ART.

On Saturday last Lord Carnarvon distributed the prizes to the successful students of the Science and Art Classes at Newbury. In the course of the address which he subsequently delivered, he said that nowhere, he thought, was it possible for his hearers to find higher models or be led into a higher field of study than by looking into the history of the ancient school of Greek art. He would remind them of three great rules, so to speak, which were familiar to Greek artists of old, and which even an English audience devoted to modern science and art might perhaps do well to lay to heart. First, that the highest and chief law was the production of beauty. It was so strongly felt by the Greek mind that in many of their actual studies and Utopias they laid down the principle that no sights of deformity or unseemliness were to be exhibited to their population. For instance, when it was necessary to represent pain in sculpture or painting, the Greek artist endeavoured, as far as he could, to veil the sight in its offensive form. When death was introduced, it was rarely introduced in the manifest and rather coarse form with which we in these days were familiar with it. It was generally symbolic. It was sometimes represented by a serpent creeping out of a jar, sometimes by a broken column, and sometimes by the figure of a man departing on a journey. That was the first law which, as he took it, ruled the mind of the Greek artist. The second law, no doubt, was one worthy of inculcating upon a modern audience. It was that the combination of that which was beautiful and that which was useful was perfectly practicable and possible. The great Latin philosopher Cicero devoted a chapter in one of his most famous books to this subject. He not only laid down this rule in the broadest terms, but he instanced it and illustrated it first of all from nature. He pointed to the tree, with its stem, boughs, and leaves, and argued how in each of these cases the purpose of utility and the charm of beauty were absolutely united. He took, again, the case of a ship, with its masts and spars, as well as the perfect symmetry of her lines, and deduced from it that same combination of beauty and utility. He (Lord Carnarvon) was afraid that, had Cicero lived in our day, he would hardly have drawn the same conclusion from our ironclads and turret-ships, for, however serviceable they might be in war, for upholding the dignity and honour of the country, they could hardly be said to conduce to the purpose of the lines of beauty. The third rule, and not the least important to his mind, was this,—that in art as in other studies they could not attempt to dispense with the necessity of study and laborious work. This was true in all times. It was recognised by the ancients, and it had been enunciated over and over again by the greatest of moderns. The education of the ancient Greek sculptor was one of a most laborious and painstaking kind. He was required to study geometry; there were mathematical canons laid down for him, and scientific treatises that he was required to master, and he (Lord Carnarvon) apprehended that he was obliged to work as hard as a pupil in the hardest scientific class that could be found in any country in Europe. There was but one thing more in that study of science and art which they had to set before them. He prayed them to remember that besides the mechanical act of drawing, painting, and modelling in which they were engaged, there was another branch well worthy of attention, and that was the history of art itself. No history could, he thought, be more varied or more interesting. There had been times, countries, and races in which art had been the simple, unconscious expression of feeling. There had been other countries, again, and times and races, where it had been, he would not say untrue, but at the same time a very conscious expression. Again, there had been times when it was so closely interwoven with feelings of religion, that they might say that it had almost grown out of religion. There were other periods, when it was allied to the opposite of religion. Those who devoted themselves to this subject, those who worshipped and studied art, and those who stood at her altars, in however lowly and humble capacity, should remember what the

fountain was from which it sprang, and what the object was it set before them, to endeavour and strive to the utmost, whatever their gift might be, great or small, mighty or mean, so as to employ that gift as to be worthy of the spirit of that cause in which they were labouring.

THE NEW RIVER COMPANY'S WORKS AND THE PROPOSED PURCHASE OF THE WATER COMPANIES.

AT a large sale of shares in the New River Company, which took place at the Auction Mart last week, allusion was made in the particulars, issued in pamphlet form, to the Company's new works, now in progress, and also to the subject of the proposed purchase of the Metropolitan Water Companies generally. In reference to the New River Company's additional works, at present in course of execution, it was stated that the company were progressing with the sinking of a well at Turnford, and that, to provide for the increasing demands of their district, the company had made several important additions to their contributory works, so as to effect a separation of the different levels of the service into convenient zones, and to add to the power and manner of communication by which their different stations are enabled to assist one another. The new works at Hornsey include five filter-beds, of a joint area of five acres and a third, and one of these is already completed. Four powerful engines, which have been in course of construction, are likewise completed. A high-service reservoir at Crouch-hill, capable of holding 12 million gallons of water, with about thirteen miles of large mains, as lines of communication between the filter-beds, and for connexion with existing pipes, are also in course of construction.

As regards the proposed purchase of the various Metropolitan Companies by the Board of Works it was observed that such purchase, which a short time ago seemed imminent, was no longer one of the pressing topics of the day, but it would likely occupy the attention of the public for many years to come, as it had done for many years past; but when the time arrived for the transfer of these undertakings a very liberal basis of payment would have to be adopted. The New River Company would assuredly be dealt with on an exceptional principle, because by its acquisition alone the needs of all London could be met in the desired way. The capitalisation of the bounding income of the New River Company would probably recoup the proprietors on the full amount of their investments, and still leave them in the enjoyment of their landed and house property.

It may be added that the total proceeds of the sale, which comprised forty-six lots, consisting of 95th and 190th parts of King's and Adventurers' shares, and twenty 100*l.* new shares, realised 29,400*l.*, the 95th and 190th parts of the King's and Adventurers' shares being sold for 945*l.* and 475*l.* each respectively, and the 100*l.* new shares for 325*l.* each.

THE NEW SADLER'S WELLS THEATRE.

A LARGE body of workmen are at present actively employed in the rebuilding of Sadler's Wells Theatre, preparatory to its opening by Mrs. Bateman, the new lessee, who, by an announcement in front of the building, states that the opening will take place at Easter, but although the new structure is in an advanced state towards completion it is improbable that it will be finished until about Whitsunside. Notwithstanding that this historic dramatic edifice was only recently internally reconstructed, the new lessee determined upon the rearrangement of the whole of the theatre, both externally and internally, and this is now being carried out from designs furnished by Mr. Phipps, architect. The whole of the interior of the building, including the inner walls and other structural portions, has been removed, as well as parts of the main outer walls, and the whole is undergoing reconstruction, embracing new and increased approaches and staircases to the different parts of the house, with improved means of entrance and exit to meet the present requirements of the Lord Chamberlain, as well as the powers now possessed by the Metropolitan Board of Works, under the Metropolitan Buildings Amendment Act of last session. That portion of the structure at the east end, forming the stage, machinery, and scenery section of the building has been entirely re-erected, admitting of the stage being much enlarged as compared with that in the old building, the whole of a former open area or courtyard at the extreme east end having now been taken in. It is carried up to a height of about 70 ft., giving ample space above the proscenium for working the machinery connected with the scenes, whilst a deep basement under the stage will be provided with similar apparatus. As regards the auditorium part of the theatre, the capacity of the new building will considerably exceed that of its predecessor. The old roof will be removed, and the building raised in height to the extent of about 15 ft., admitting of the construction of additional tiers, the new theatre having two galleries. The interior fittings and decorations are intended to be elegant and artistic, whilst externally the new building will present a greatly improved architectural appearance.

Mr. Nightingale, of the Albert Works, Lambeth, is the contractor for the new building.

VALUE OF LEASEHOLD PROPERTY IN THE STRAND.

LAST week, at the Auction Mart, Tokenhouse-yard, Messrs. Glasier & Sons offered for sale the leasehold business and residential premises at the corner of the Strand and Villiers-street, by direction of Mr. James Attenborough, the lessee. The property was described as one of the most choice and exceptionally good sites for commercial purposes in the metropolis, containing five lofty floors above the street-level, in addition to dry and well-ventilated basements, the superficial area of the whole being nearly 1,200 ft., exclusive of the portions under the public footways. The premises were stated to be held by Mr. Attenborough for a term of forty-three years from Dec. 25, 1856, at the nominal rent of 204*l.* per annum, in consideration of the expenditure by him of a large sum in alterations and improvements, and were now moderately estimated to be worth 1,000*l.* per annum. Twenty-one years and a half of the term were unexpired at Christmas, 1878. In introducing the property, the auctioneer stated that Mr. Attenborough had expended upwards of 7,000*l.* in entirely rebuilding the premises. He observed that, should the purchaser not require the premises to carry on business himself, the property could easily be let, either separately or as a whole, for considerably more than 1,000*l.* a year. The first offer made was 6,500*l.*, and no advance upon 8,900*l.* being offered, the property was withdrawn at 9,000*l.*, the auctioneer observing that it had not reached its value by a considerable sum.

INTENTIONS AT THE INSTITUTE OF ARCHITECTS.

THE Council have nominated the following Fellows as suitable for the offices of president, vice-presidents, secretaries, and other members of council, during the official year commencing May 5th, 1879, and terminating on the first Monday in May, 1880:—

President.—John Whichcord, F.S.A., Senior Vice-President.

Vice-Presidents.—Thomas Hayter Lewis, F.S.A., Vice-President; Edward Middleton Barry, R.A., Past Vice-President; Horace Jones, Past Vice-President.

*Members of Council.**—Anderson, John Macvicar; Blomfield, Arthur William, M.A.; Brandon, David, F.S.A., Past Vice-President; Brooks, James; Cates, Arthur; Christian, Ewan, Past Vice-President; Clarke, Joseph, F.S.A., Past Vice-President; Currey, Henry, Past Vice-President; Drew, Thomas, R.H.A. (Dublin); Gibson, John, Past Vice-President; Hansard, Octavius; Hansom, Charles Francis (Bristol); Honeyman, John (Glasgow); I'Anson, Edward, F.G.S., Past Vice-President; Knowles, James Thomas; Pearson, John Loughborough, A.R.A., F.S.A.; Porter, Frederick William; St. Aubyn, James Pearse; Vulliamy, George, Past Vice-President; Waterhouse, Alfred, A.R.A., Past Vice-President; Worthington, Thomas (Manchester).

Honorary Secretary.—Thomas Henry Wyatt, F.S.A., Hon. Secretary and Past President.

Secretary.—William Henry White, Secretary.

The paper to be read on the 21st of April, by Sir James Watson, is entitled "Improvements in Glasgow and the City Improvement Acts: Origin of the Artisans' Dwellings Act." The discussion of the paper will follow immediately after the reading. Though the paper practically refers almost exclusively to Glasgow, it opens grave public questions relating to the provisions of the Artisans' and Labourers' Dwellings Act, 1875, and the Artisans' Dwellings Act (1868) Extension Bill now before Parliament, as well as to the Metropolitan Street Improvements Act, 1877.

With a view to better following the working of these and cognate Acts, the Council have made application to the Metropolitan Board of Works to be favoured with copies of all plans and schemes relating to projected Artisans' Dwellings deposited by that Board in the House of Commons.

* Fifteen names to be returned.

THE INSTITUTION OF CIVIL ENGINEERS.

WE are asked to state that the Council of this Institution have arranged a second series of supplemental meetings, for the reading and discussion of papers by students, which are to take place on the following Friday evenings at seven o'clock:—

March 28.—"An Account of some of the East London Waterworks Company's Extensions." By G. L. Parrott, Mr. Rawlinson, C.B., Member of Council, will preside.

April 4.—"The Tidal Wave in the River Humber." By A. C. Hurtzig. Mr. Abernethy, Vice-President, will preside.

April 18.—"The Construction of Locomotive Boilers." By R. H. Read. Mr. Berkley, Member of Council, will preside.

April 25.—"The Comparative Merits of the Different Systems of Permanent Way." By Richard M. Parkinson. Mr. Brunlees, Vice-President, will preside.

May 2.—"Gas Purification." By T. N. Kirkham, jun. Mr. Poole, Member of Council, will preside.

RIGHTS OF ADJOINING OWNERS.

BRYANT *v.* LEFEVRE AND OTHERS.

THIS case was before the Court of Appeal on the 22nd inst. It was an appeal of the defendants from a judgment of Lord Coleridge, the appeal having been heard on the 12th of December before the Lords Justices Bramwell, Brett, and Cotton.

The action was by the owner of a house against the owner of an adjoining house for raising his roof so as to overhang the plaintiff's house and prevent the free passage of air, and so to make his chimneys to smoke, &c. The plaintiff proved that his house had been for more than thirty years free from such obstruction, and that the defendant by raising the roof of his house, which was as old as the plaintiff's, had caused such obstruction, and the jury found there was a nuisance.

Lord Justice Bramwell now delivered the judgment of the Court in favour of the defendant, the appellant, on the ground that the plaintiff had not established such an exclusive right as was necessary in order to sustain his action, nor had he established a case of nuisance. No such right could, they said, be gained merely by actual enjoyment for twenty years. There was no analogy between such a claim as this and a twenty years' claim of light, which was in itself anomalous, but was always limited to particular apertures or windows; whereas the present claim could only be barred by building high walls all round. There was no evidence of a nuisance. The plaintiff's remedy was to build higher.

Lord Justice Cotton delivered a judgment to the like effect (concurring, however, in the reasons given by Lord Justice Bramwell), being of opinion that there had been no interference with any legal right of the plaintiff.

Judgment, therefore, for the defendant on the appeal.

THE LAW OF LANDLORD AND TENANT ON HOUSE REPAIRS.

IMPORTANT CASE.

A CASE of considerable importance, alike to the owners and occupiers of houses, was settled at the Wandsworth County Court last week. Mr. Antoine Castelberg brought an action against Mr. Kenyon to recover two sums of 9*l.* 19s. 6d. and 34*l.* 10s. respectively, under the following circumstances:—The plaintiff rented a house belonging to the defendant, for twelve years, subject to a covenant on the part of the tenant to keep the premises in as good a state of repair as they might be on his taking possession, reasonable use and wear only excepted. The work in respect of which 9*l.* 19s. 6d. was paid by the plaintiff in repairing and cleansing water-closet and repairing cistern, was done in pursuance of notices from the surveyor of the Local Board under the Metropolis Local Management Acts, and the Nuisances Removal Acts; and the work in respect of which the 34*l.* 10s. was paid, viz., connecting all drains with the main sewer, and laying on water from the main of the water company, was done in pursuance of an order made upon the plaintiff by the magistrate at the Wandsworth Police-court, under the Nuisances Removal Act of 1855. The plaintiff had made application to the defendant to execute the works in question, but the defendant had always refused to comply with such request, and disclaimed all liability in respect of the matter, the result being that the

plaintiff, under compulsion from the local authorities, had executed them at his own cost, and now contended that he was entitled to recover the amount paid, having been compelled to incur the outlay.

On the part of the defendant the facts were not disputed, but it was contended that as there was no express covenant by the defendant to repair, beyond those mentioned in a letter referred to in the agreement, no such covenant could be implied.

The Deputy-Judge (Mr. John Scott) in giving his decision, said that in the absence of any express covenant on the part of the defendant to repair, none could be implied. There being no covenant on his part to repair generally, the plaintiff was without remedy for the defendant's failure to do that which he had not contracted to do. The 9*l.* 19s. 6d. was paid b the plaintiff for repairs voluntarily done by him, and not in consequence of any proceeding taken against him by the sanitary authority; and as to the 34*l.* 10s., it was paid by the plaintiff, not to the use or at the request of the defendant, or in discharge of a duty cast upon the defendant, but for work done by the plaintiff in obedience to an order made upon him as occupier. Judgment was given for the defendant, with costs; but the Court of Queen's Bench, on Wednesday last, granted a rule *nisi* to set aside the judgment, and enter it for the plaintiff.

The tenant should have taken proper advice before ordering the work to be done.

TEMPORARY BUILDINGS UNDER THE METROPOLITAN BUILDING ACT.

AT Lambeth, Mr. Timewell, late proprietor of Clapham Marble Skating Rink, appeared in answer to a summons taken out by the Metropolitan Board of Works, charging him with non-compliance with a notice given as to its construction. Mr. Beattie, assistant-solicitor to the Board, appeared in support of the summons; Mr. Macrae Moir, barrister, defended. The defendant had obtained a licence from the Board for the building, for two years, as an irregular building. The licence not having been renewed, the Board called upon him either to make the building in accordance with the report of Mr. Parsons, the district surveyor, or to pull it down.

Mr. Macrae Moir submitted that the Court had no jurisdiction, and that whatever order was made as to the place, which was a public building, the defendant, who had parted with his interest to a Mr. Clench, and was likewise a bankrupt, could not comply with it.

Mr. Beattie pointed out a number of sections in the Metropolitan Building Act, and the point arose whether after a licence to build for two years the powers of the Board were reserved and to be exercised as in respect of a building in the course of erection.

Mr. Ellison eventually dismissed the summons. He said he could not see his way to make the order required by the Board, as he could not say after a licence had been granted, and the place completed, that it was in the course of erection. He would grant a case if asked to do so.

Mr. Beattie said the question was one of importance, and he should submit the matter to the Board.

"ART FOR ART."

SIR,—Will you allow me space in your columns for a few remarks on two letters which have appeared there, signed "Art for Good," in which the writer accuses Mr. T. H. Hall Caine of contradicting himself in his lecture on Rossetti, delivered in Liverpool, Jan. 28th. I am quite willing to believe that "Art for Good" is "tolerably free from malice" (though the virtue that requires insisting on by its possessor is at least open to question), and suppose that his accusation arises from want of comprehension of the lecturer's meaning; and my supposition is strengthened when I find he can understand art insisted on for "pleasure's sake," or "religion's sake," or "country's sake," but "art for art's sake is sheer nonsense": that is, he can understand the artist working for a reward, whether given by religion, patriotism, or pleasure, but the labour that yields itself up wholly to the glorifying of its object with no thought of self to darken or deface that "Selbst-tödtung" which is the supreme glory of the highest natures, that is "sheer nonsense!" To the Puritan, Raffaelle's divinest Madonna seems a materialised impiety, Mozart's most prayerful masses a torrent of sensuous sound, drowning the God they glorify; it is no wonder, then, "Art for Good" fails to grasp the meaning of the passage he calls contradictory, since in that passage the "sheer nonsense" of art for art is clearly enunciated. See that your nature be pure, and then away with self-consciousness, for only when the artist loses *his* self-consciousness can art fully attain *hers*; until then she is only artistic religion, patriotism, or pleasure. Such seems to me the plain signification of the lecturer's words, and when "Art for Good" indulges in the *reductio ad absurdum* argument he convicts himself; for not only does he endeavour to wrest the meaning of the word "accident" from the sense in which it is used by the lecturer, but he apparently forgets the great stress Mr. Caine lays on the *character* of the artist's nature:—"The artist has never at any time divorced his moral nature from his artistic instinct, and cannot. The ethical significance may have been always the accident of his work, but it has been always the essence of his nature." And his exhortation to artists to look closely that the personal nature, which, without purpose of their own, permeates their work, is such as will bear fruits of good meaning" it would be difficult to speak more plainly, and I imagine even "Art for Good" could scarcely class murder as among the "fruits of good meaning!" "Art for Good" says,—"Whenever writers are rash enough to leave the highway of common sense for the byeways of rhapsody, they are sure to follow these misleadings into the slough of inconsistency and error." And I would retort, whenever writers intent on proving their cause pick out a few phrases at random from a passage, they are sure to misapprehend, and probably parody, its meaning, as "Art for Good" has done in this case. I think, too, there is great need to pause for a reply when he asks, with that air of proprietorship in the Deity his school seems so fond of assuming, "Does the Almighty abandon himself unconsciously to his work?" I have not, with all reverence be it spoken, penetrated so far into the secrets of God as to be able to answer, as those writers on "The Strategy of Providence" and "Mechanism of the Universe" could, no doubt, glibly do; but having some slight acquaintance with art and man, I fully believe no great work of the one was ever produced by the other while self-consciousness filled his mind and excluded that consciousness of art which is the true inspiration to achievement in her realms. I cordially agree with "Art for Good's" last remark,—"Sophistry is but a weak lance at best," &c., and would beg him for the future to try to understand before condemning.

"Pray look better, sir," quoth Sancho: "those things yonder are not giants, but windmills."

HVELYN PYNE.

SIR GILBERT SCOTT'S LECTURES.

SIR,—My attention has been directed to the review in your last issue, wherein you refer to a sketch of St. Front at Perigueux, vol. ii., p. 272, as not agreeing with the section, and "shown with Romanesque or semi-Gothic clustered piers, and with a perspective of more domes than could be seen from any point of the interior." This sketch is really the well-known church at Angoulême, and the inaccuracy has arisen from an error in the press sheets, the titles of three of these small views having been transposed (pp. 272—276); they should read:—Fig. 445, Angoulême; fig. 448, Notre Dame du Pont, Clermont; and fig. 450, St. Front, at Perigueux.

The plan of the Abbey Church at Bury St. Edmund's, you state, "omits the important point of the deflection of the axis of the choir from that of the nave." The engravings in the "Archæologia," vol. iii., p. 311, do not show any deflection, neither does the "Journal of the Archæological Association," vol. xxi., p. 40, from which the plan in question appears to be taken.

The illustrations are produced, not by photo-lithography, as stated, and deplored, but by zinco-typography. Had the former method been employed it would have been impossible to have printed the illustrations with the text.

W. SAML. WEATHERLEY.

LONDON SCHOOL BOARD PAYMENTS.

SIR,—Will you kindly allow me to point out, through the medium of your columns, that the action of the London School Board in suspending the payments due to builders is not only an inconvenience to the builders concerned, but will result in an increase of expense to the ratepayers. Because, the suspension of payments amounts to a breach of contract with the builders, who will very naturally and properly expect to be repaid for the loss of interest on money due, for the loss consequent on stoppage of works, and for any increase in market prices of materials.

H. C. BEVIS.

BLOOM ON TILES.

SIR,—Our hall tiles, "Craven, Dunnill, & Co.'s," are always covered with a white matter; it sweeps up like snow, and the tiles are covered again soon after. Tiles in churches are often so. What is the cause? Will any reader suggest a remedy? I asked the builder what would remove grease spots or stains from the tiles. He could not tell me; so it is useless to ask him a remedy for the other difficulty.

L.

BELLS.

Raunds.—The peal of bells at Raunds Church was rung for the first time on the 10th inst., after being put in good and safe ringing order by Messrs. Taylor & Sons, of Loughborough. The two large bells had been re-cast, and the whole peal re-hung.

Llandaff.—A Llandaff correspondent informs us that only seven of the peal of eight bells now being placed in the north-west tower of the cathedral are new ones, the eighth, or tenor (weighing nearly 23 cwt.), having been in constant use for many years.

Books.

The Twelve Egyptian Obelisks in Rome: their History explained by Translations of the Inscriptions upon them. Edited by JOHN HENRY PARKER, C.B. Second Edition, revised and enlarged, 8vo. Oxford, 1879.

THE Nestor of archæologists, and historian of the antiquities of Rome, has now published a second edition of his monograph on the obelisks in Rome. We were compelled to point out a few inaccuracies in speaking of the previous edition, but this did not prevent us from strongly commending it as a whole. The general subject of these monumental erections has much occupied the public attention in England for the last two years, since Mr. Erasmus Wilson and Mr. John Dixon, C.E., first undertook the transport of the Cleopatra Needle from the sandy beach of Alexandria, where it had lain half embedded and trodden upon by passers by for many hundreds of years, and conveyed it to the banks of the Thames. Thus, what had hitherto been only imperfectly thought of by the generality of our population, and known only by books, is now palpably before our eyes, and Mr. Parker's volume developes the history of the twelve at Rome, transported thither from Egypt by the munificence of its emperors to adorn its Circi, Mausolea, and other principal monuments. They were thus constantly under the eyes of the people, and reminded them of the extent of their conquests and power, and of the greatness of their rulers.

Our author begins with a brief summary of the history of these obelisks. The earliest dates from the twenty-first century before the Christian era, recalling the time of many of the patriarchs as Abraham, Jacob, Lot, Melchisedec, and the destruction of Sodom and Gomorrah. The latest has upon it the cartouches of Apries or Pharaoh Hophra, who reigned from B.C. 588 to 569, and to whom, in his second year, the Jews fled for protection, in spite of the warnings of the prophet Jeremiah, carrying with them the prophet himself by force. The popes, emulating the example of the Roman emperors, set up the obelisks in their present positions, Sixtus Quintus being the first, in A.D. 1585, and followed by his successors, Innocent X., Alexander VII., Clement XI., and by Pius VI. as late as 1792. The one on the Pincian, erected in honour of Antinous, the favourite of Hadrian and Sabina, was put up in 1822 by Pius VII.

Dr. Birch translates the hieroglyphics on the Lateran obelisk, originally set up by Thothmes III., and completed by Ramses II., who, with rare modesty, did not arrogate to himself the honours due to his predecessor. Originally, the hieroglyphs on obelisks were cut in one central vertical line, but frequently, succeeding rulers added others on each side of the central line, thus forming three lines of incisions. They were very barren of information, and were confined to the record of the names and personal attributes of the special king, mixed up with maxims and blessings of the gods, the central line being more deeply incised than the later ones. Mr. Parker then gives *in extenso* the paper on obelisks read before the Institute of British Architects, with the illustrations, and which treats of their purpose, pro-

portions, and position. An engraving represents the Pylon, or huge gateway of an Egyptian temple, with the avenue of sphinxes, colossal statues, standards, and obelisks, the effect of which must have been very imposing, enhanced as was this frontispiece to the forecourt by the embellishment of large incised battle-pieces, and decorated with brilliant pigments. The Egyptian temples cover a vast area; court succeeds to court encircled with porticos; there are large halls and chambers shaded from the burning light; the columns are often gigantic in dimension, with capitals of various form, and with the shafts profusely embellished with coloured forms. Their sculpture, however, is stiff, angular, and square, without grace or movement, and the bodies are mostly terminated by the heads of monkeys, cats, rams, owls, and other animals. Their paintings are generally devoid of artistic composition, a mere flat combination of objects, imposing, however, by their size or the solemn mode of treatment as for sacred subjects. The whole of their pictorial or sculptural art is a conventional treatment of form and colour, whereas their architecture is simple, majestic, and sublime. The Nile, the great highway of Egypt, afforded the opportunity of conveying the monolithic obelisks, on huge vessels or rafts, from the quarries of Syene for hundreds of miles down to Memphis, Heliopolis, and other towns of Lower Egypt, where they were ultimately set up before their temples. At Memphis, once the capital of the province, and consequently embellished by finest monuments, as we may judge from the Pyramids and subterranean tombs still seen at Mithra-Naney, the modern village which now occupies a small portion of the area once covered by the antique town, one granite fragment alone still exists in a ditch. It is some 30 ft. long, part of a gigantic figure.

Mr. Parker's work also contains a valuable paper communicated to the "Museum of Classical Antiquities," by the accomplished Egyptologist, Dr. Birch, of the British Museum. It enters largely into the peculiarities of obelisks, and the hieroglyphics by which they are covered and illustrated are learnedly described. It is to be regretted that these memorials of remote ages contain very little information of an historical, a political, or an architectural nature, but are full of religious references to the gods, and adulatory recitals of the titles, virtues, and power of the prince by whom the pyramid was set up. At the end of this essay is the engraving of a remarkable and unique scarabæus discovered by Dr. Birch in the British Museum collection, containing the representation of an obelisk showing Thothmes III., the king, one of whose obelisks we have now on the Thames Embankment, represented in the character of the god Harmachis. The scarabæus is a steatite, covered with a bluish green glaze, and about ¾ in. long, pierced for setting as a ring. The hieroglyphs are in two compartments, having a sphinx in the upper one: in the lower is the obelisk with the king in a royal garment worshipping the obelisk.

At the end of the volume are eight views of obelisks, copied from photographs, which represent these monoliths with their surroundings. The author has had ten copies only struck off in a quarto form, for presentation, with the actual photographs of the plates, and some others not contained in the smaller editions. The history and description here given of the twelve Roman obelisks, the admiration and wonder of the visitor to the Eternal City, will increase the pleasure with which they will be viewed.

Early Drawings and Illuminations: an Introduction to the Study of Illustrated Manuscripts, with a Dictionary of Subjects in the British Museum. By WALTER DE GRAY BIRCH, F.R.S.L., &c., and HENRY JENNER. London: S. Bagster. 1879.

THE real value of this book, the product of two of the senior assistants in the MS. Department of the British Museum, lies in the catalogue given of manuscripts or illuminations which illustrate special subjects, and which are grouped according to the subjects they illustrate, and the press number in the Museum Library given. Thus, if we want to find specimens of ornamental borders, we look under the head of "Borders," and find a list of the press marks of manuscripts classified according to date and country (for "Borders" is a very large item), and so we go on to illustrations of Bridges, of Buildings, of Carriages, and so on through the alphabet of subjects to be found in the great world of illuminated manuscript lore. The value of such a catalogue to students wishing to look up a special subject is too obvious to need comment: the wonder is that such a publication has not appeared before now, and we hope we may take this book as one of the signs that there is a stirring among the dry bones in the British Museum, and that there is going to be some more decided recognition on the part of those who take charge of its treasures that their real object is to be made useful, and not to be merely kept uninjured on shelves. When a man does know what he wants at the British Museum, there will be all courtesy and attention in providing him with it; but it really has seemed to us that the authorities were desirous to keep people from finding out what there was there, for fear, we suppose, things should be too often and too much asked for. In the print-room, for example, the superstition is still kept up that not a word is to be told any visitor that may indicate to him what there is that will help him or interest him. If he knows or guesses that such and such a thing is there, and asks boldly for it, it is produced; but if he asks, for instance, what drawings of the Italian school are there, he will get no information, he will merely be told to name what he wants to see. If he asks for a catalogue, there is no such thing. A catalogue of the prints was published some time since independently of the authorities, at a considerable price; and we presume the volume before us does the same thing, on the same kind of footing, for a portion of the MS. room. But what a strange thing it is that a collection, the only value of which is for reference, should be kept *perdu* in this way, and not the slightest official attempt made to inform any one as to what is and is not there.

The book is illustrated by photographs of some of the most interesting of the illuminated pictures in the collection; these are an addition to the book which takes it a little out of the catalogue groove, and will be valued by many; but this feature in the volume might have received a little more care and consideration; there is a numbered index of the plates, but the plates are not numbered, are in a different order from the index numbers, and some which are named are not given, and others given which are not named. It is curious that gentlemen capable of giving such toil and attention to the making up of the catalogue should have refrained from giving the small amount of ordinary attention which would have sufficed to avoid such mistakes as these. The comments on some of the drawings are odd, and attach far too much artistic importan ȝ and value to them; their value is almost wholly archæological. In commenting on the plate of "Alexander and the Elephants," it is observed that the elephants "do not very much resemble the animal *as at present known*"; as if the type of elephant might have changed since the fifteenth century from a long-necked animal, with a cloven hoof, to the elephant of the present day. That would be evolution of species with a vengeance. Nevertheless students should be much obliged to Mr. De Gray Birch.

The Etched Work of Rembrandt: a Monograph. By FRANCIS SEYMOUR HADEN, F.R.C.S. Macmillan & Co. 1879.

THIS is a reprint, in a very neat form, of the essay which Mr. Haden originally wrote as a preface to the Catalogue of the Exhibition of Rembrandt Etchings, at the Burlington Fine Arts Club. We commented upon the exhibition and upon the preface to the catalogue at some length at the time, noticing some of the new and, as it seemed to us, very probable and reasonable suggestions which Mr. Haden made in regard to the question of the authenticity of some of the etchings and the part which Rembrandt's pupils probably took in finishing or reproducing works of this kind. The remarks on page 9 as to the utter triviality of attaching special value to a few impressions taken before some final correction had been made or a date added, and then calling these "first states" and "second states" (whereas they are, says Mr. Haden, merely "trial proofs"), are very seasonable as well as sensible. The man who hunts up impressions before date or with an incorrect line not taken out, and gives double price for them, is the very person who should *not* be called, as he generally is, a "connoisseur," as he is the person who does not know, if one may judge by his proceedings, in what the highest value of an original work of art consists.

An appendix to the essay is concerned with the author's case against a gentleman, a Mr. Middleton, who has been writing about Rembrandt, and who, Mr. Haden avers, has merely plundered his ideas, and re-issued them in often very similar language, claiming them as his own original thoughts. We cannot express any positive opinion, of course, on an *ex parte* statement, but it certainly appears as if Mr. Haden had good reason to complain.

VARIORUM.

THE first number of Mr. Edmund Yates's new venture, *Time*, gives promise of great success. Shakspeare is made to add to the title *Time*,—

"And Life,—
. . . . . Time's Fool,"

and the articles in the budget show the addition is correct. The variety is remarkable,—including social essays, biography, poetry, the commencement of a novel by two strong writers, shorter stories, complete in themselves, and an important chapter on Art-Education in England which ought to bear fruit. Mr. Yates has issued the best first number we have seen for many a day.

Miscellanea.

Condition of Galata.—The editor of the *Constantinople Messenger*, adopting one of our old headings, "Fever Dens and Plague Spots," gives a striking picture of the miserable condition of some of the streets of Pera and Galata. He continues:—"But this is not all. Let any one have business at the Custom-house, or pass through any of the side lanes that lead from the tramway route to the waterside, and the accumulations of filth he has to encounter are simply abominable. If streams of mud do occasionally flow down the larger streets, they at least serve to carry off some of the most obnoxious elements of the vile compound, and thus cleanse the localities after a fashion. But these lanes are never washed, even with mud. They stink after the heaviest rains. Every lane and alley is a veritable den of fever. This, however, is not the worst that Galata affords. Cross the tramway route, and go through the district, filling up the angle between it and Step-street, in the midst of which is the new International Post-office,—it is like jumping out of the frying-pan into the fire. This district is crowded with habitations of the worst character, and swarming with inhabitants of the lowest class. The accumulations of moral and physical filth are appalling. No serious attempts are made to purge it of the one, or to sweep away the other. So thick are the heaps of rank soil above the rough stone pavement in some places, that an Irish peasant would raise a capital crop of potatoes in front of his street door, if he happened to find himself sojourning for a short season in the locality. Here we have fever dens in abundance, and the whole district constitutes a chronic plague-spot, in which pestilence is being perpetually generated, to spread at intervals over the whole city."

Destruction of Monuments, Strood Church.—A well-known antiquary properly condemns some recent proceedings. He writes,—Among the ancient sacred monuments removed from their places in Strood Church is an early incised slab of the highest interest, being of the thirteenth century, and resembling in style and character one of the celebrated Cobham brasses engraved and described by Mr. Waller. This slab, I am informed, has been engraved by Gough, and it is also noticed, I believe, in the *Gentleman's Magazine* (old series). But, probably, the desecrators who destroyed this slab or lowered it into the vault relied on the oblivion which attends all, high as well as low, when they can no longer distribute riches and patronage. But it is not so with other monuments buried in the vault, which are, I am assured, connected with families yet living. The general belief is that a church is certain security for monuments of the dead. Nothing is more delusive. Nothing stands in the way of "improvement," which is often merely the whim of a vicar or rector.

The Royal Society.—The list of candidates for election into the Royal Society has been printed. They are fifty-three in number, and for the most part already highly distinguished.

British Archæological Association.—The sixth meeting was held on Wednesday, the 19th inst., when it was announced that the Council had accepted the invitation of the Mayor and Corporation of Great Yarmouth to hold the congress of the year at that town. Visits would be paid to Burgh, Caistor, Blickling Hall, Dunwich, and other places of interest in the locality, closing at Norwich. Mr. Loftus Brock, F.S.A., exhibited a German glass apostle cup, and several relics of old London, from recent excavations, including a silver bottle, which had been turned in a lathe in its fabrication. Mr. Earle Way described similar excavations in Southwark, and produced a large collection of Roman articles found in them. The Rev. S. M. Mayhew reported the discovery of remarkable Roman remains which have just been brought to light by the new drainage works at Lincoln. Seven brick bases or pedestals were found exactly opposite the building discovered last year, and supposed to be the prætorium. He ventured to conjecture that they were for placing upon them the sacred standards of the legion quartered in the city. They were 4 ft. 6 in. high and 2 ft. broad, and have been demolished. A good tesselated pavement has been found near the Exchequer-gate, and elsewhere traces of the ancient sewers of large size and capacity have been met with. The first paper was on "Ancient Thimbles," by Mr. A. Syer-Cuming. After referring to statements made that these articles were of recent date, he adduced evidence to show that they were well known to the Romans. The earliest examples, however, in this country and North Europe appear to have been of leather, one of that material being shown. It was in use in County Cork so late as 1820. A large number of examples of brass dating from 1500 were exhibited. They were mostly found in London, and some of the seventeenth century have inscriptions. Several ladies who were present produced other examples of high workmanship and finish. The second paper was by the Rev. Prebendary Scarth, F.S.A., descriptive of a Roman sepulchral inscription recently found at Bath, where several remarkable discoveries have been made in course of the drainage work.

The Iron Trade.—Messrs. Shaw & Thomson, in their "Iron Trade Circular," say,—"The spring opens with undoubtedly better prospects and a greater degree of confidence than we have had for some years. Capitalists could not invest in better property than iron at present prices, and we shall be much surprised if prices are not materially higher before the close of the year. *Pig Iron.*—The annual production is now 6,500,000 tons, and the total stocks at present in Scotland, Middlesbrough, Staffordshire, and Wales, do not exceed 1,200,000 tons, or about two and a half months' reserve—a comparative trifle, which any moderate increase of demand would quickly sweep away. But even this stock appears greater than it really is. In ordinary times, half at least of this quantity would be in the hands of merchants, founders, and dealers, who are at present utterly bare of stock, and buy only from hand to mouth, many having contracted to deliver even what they have not yet bought. The price of Middlesbrough No. 3, which touched 32s. 6d. per ton, has advanced to 35s. per ton free on board. Scotch pig-iron warrants which fell to 42s. 6d. have advanced to 44s. 9d. per ton f.o.b. Glasgow. *Bessemer Steel Rails.*—About 130,000 tons have been contracted for since the beginning of the year. The price opened at 5*l.* 10s. per ton, receded to 4*l.* 6s. per ton, and has since advanced to 5*l.* per ton. Bessemer steel rails were sold in 1873 at 21*l.* to 22*l.* per ton."

Gathering Grounds.—At a meeting of the Liverpool Engineering Society on Wednesday, the 12th inst., the president, Mr. Morgan E. Yeatman, in the chair, a paper was read by Mr. Thos. Duncanson on "Storing Water," which dealt with the construction of large storage reservoirs. The author commenced by stating the principles on which the yield and capacity of reservoirs are determined, showing the most economical proportions between the two factors; then went on to consider the actual construction of reservoirs, the usual practice of hydraulic engineers being fully described. Special reference was made to the Yarrow reservoir belonging to the Liverpool Corporation; and the paper concluded by pointing out the necessity for some national scheme for utilising the mountain or rainy districts of England and Wales for the supply of towns. A discussion followed.

Too much Horseflesh.—According to an American paper, Professor T. P. Wilson has found out why civilisation is a failure. It is because there is too much horseflesh. In the course of a lecture delivered in Cincinnati, he remarked that the cities of America had reached their last milestone of progress. There has not been, he added, a practical improvement in those cities for twenty-five years. Not that they are not growing larger, but that there has not been an advance in the benefits and pleasures of city life. The way we make our cities now is to take some horses and build houses around them. Our cities are geometrically right, but æsthetically wrong. Why are our cities built straight? So that the horse may have a place. The use of the horse in all our large cities is a blunder. By a better power we can move people for three-fifths less than we pay now, and in less than half the time. What the Professor gravely purposes to do is to take away the horses, pave the cities with asphalte or gravel, cover the streets with green grass, ornament them with shade trees and flowers, have cars running on steel rails, do all the work of transportation with a new motive power in one-half the time and for one-fifth of the money, consume all the smoke, and render American cities the gardens of the world!

The Master Builders' Association.—With reference to the summary of the report of the Central Association of Master Builders of London, which we published, we are informed that the passage:—"A proposal to reduce the men's wages had for pecuniary reasons been withdrawn, as it was not thought advisable to enter into another conflict with the union," is not correct. The following are literal transcripts from the report:—"They [the committee] would congratulate the Association on the successful termination of the 'masons' strike' last spring; when the 'masons' union,' although it did not withdraw its demands, allowed its members under certain conditions to return to their work. As the shops had been filled with men brought by this Association from other localities, this permission came a little too late." "It is matter of congratulation to the committee that the Association is now entirely free from debt."

The Proposed New Building Regulations for Glasgow.—The Glasgow Town Council held an extraordinary meeting on the 21st inst. to consider the proposed new building regulations for the city. It was intimated by the clerk that the Home Secretary had transmitted the report of the Sheriff Clerk, who stated that while he was of opinion that the general scope of the proposed order was good, and the principles it embodied were sound, he could not recommend its adoption without important changes in detail, and without adequate provision for compensation. The Lord Provost remarked that there were now only two courses open to them,—either to amend the order on the lines indicated, or to withdraw it altogether. It was resolved that the matter should be remitted to the Health Committee for consideration and report.

Liverpool Exhibition.—According to the Report of the Fine Arts Committee upon the eighth Autumn Exhibition of Pictures in Liverpool, the works exhibited numbered 1,062. Of this number 970 were on sale, and 236 were sold for sums amounting to 7,340*l.* 7s.; included in this amount being the purchase of Mr. H. Herkomer's "Eventide," bought from the artist's easel. Included in the sales also are three works purchased by the Corporation for the permanent collection, viz.:—"And when did you last see your Father?" by W. F. Yeames, A.R.A.; "A War Despatch at the Hotel de Ville," by A. C. Gow, and "Gathering Bait," by J. Aumonier. The admissions by payment have been nearly 6,000 in excess of last year.

Cost of Roads.—The surveyor to the Vestry of Chelsea, in a recent report, says,—"The first cost, maintenance, and cleansing of wood for a period of fifteen years would amount to 31s. 3d. per yard, whereas the maintenance and cleansing of macadam for a similar period would be 42s. 6d. per yard at least. It is, therefore, apparent that a very considerable money saving would be effected during that period by the substitution of wood pavement, independently of the advantages obtained by the superiority of a silent pavement, and the absence of frequent repairs, so annoying in the case of business premises where a macadam road exists."

Edinburgh.—At a meeting held the other day of the Edinburgh and Leith Master Builders' Association the question of wages was discussed, and it was resolved that such of the employers as could get men to work for 6d. per hour should pay this rate of wages; while in those cases where hands could not be had at that figure, the present standard of 7d. per hour should be given.——At a general meeting of the Edinburgh and Leith Master Plumbers' Association, held on the 19th inst., it was unanimously resolved to reduce the wages of the operatives 1d. per hour, to take effect from the 31st inst.

Needful Notice.—The Local Government Board have called the attention of the Wilton Local Board to the imminent danger to which the health of the inhabitants of the district is exposed by the existing arrangements of water-closets being supplied from drinking-water pipes, and they have urged the Wilton Board to avert the danger, by requiring that every water-closet shall receive its water-supply through a cistern or service-box. Notice has accordingly been given to the inhabitants. The Local Board and their surveyor (Mr. Bothams) offer any information that may be needed.

Fires.—A telegram from Akyab states that on Saturday the native town was destroyed by fire. The damage is estimated at half a million sterling.—Early on Wednesday morning Clumber House, the seat of the Duke of Newcastle, four miles from Worksop, was for the most part destroyed by fire. A great many valuable pictures have been destroyed. The whole of the centre of the house is gutted, only the bare walls are standing, and at present it is impossible to estimate the damage. The origin of the fire is not known.

Artistic Furniture.—Messrs. Orme & Sons, of Manchester, are offering 120*l.* in five premiums for designs of billiard-tables, &c. They add,—"Competitors not gaining a prize may allow their drawings to remain with Messrs. Orme & Sons permanently, who agree to pay 2½ per cent. on all tables made from such design, within three years of the date of award." The judges are Mr. W. J. Muckley, of the Manchester School of Art; Mr. E. Salomons, architect; and Mr. James Lamb, cabinetmaker.

Obituary.—The death on the 21st inst., at No. 23, Charlotte-street, Portland-place, is announced of Mr. W. Valentine Bartholomew, aged 80 years, flower-painter in ordinary to her Majesty. For many years his drawings of flowers were an attraction at the Society of Painters in Water Colours, of which he was a member. He was a brother of Mr. Alfred Bartholomew, the architect.

Stoke-upon-Trent Sewerage.—The first premium of 150*l.* offered by the Stoke-on-Trent Council for the best scheme of dealing with the town sewage has been awarded to the scheme jointly submitted by Major-General Scott and Mr. Gilbert R. Redgrave, of Ealing; and the second award of 100*l.* to Messrs. Bailey Denton, Son, & North, of London. The scheme adopted comprises irrigation, downward filtration and subsidence, and chemical treatment.

The Society of British Artists.—The Society of British Artists have secured permanently their old galleries in Suffolk-street, where their exhibitions will be held in future. Their exhibition for the current year will be opened to the public on Monday, the 31st inst. Mr. Edward Freeman has been elected to the keepership of this Society.

TENDERS

For rebuilding shops and offices in Cheapside, London. Messrs. Ford & Hesketh, architects:—

Smith & Co.	£33,342	0	0
Fish	33,141	0	0
Brass	32,277	0	0
Scrivener & Co.	31,476	0	0
Adamson & Son	31,376	0	0
Conder	31,130	0	0
Browne & Robinson	31,001	0	0
Ashby Bros.	30,792	0	0
Patrick & Son	29,434	0	0
Shaw	29,296	0	0
Lawrance (accepted)	28,435	0	0

For alterations at Pynes, Exeter, the seat of the Right Hon. Sir S. H. Northcote, bart. Mr. James Jerman, architect:—

Scadding	£490	0	0
Dennis, Short, & Milford	487	12	0
Stephens & Son	437	0	0
Blake	436	0	0
Reynolds	435	0	0
Gibbard (accepted)	395	0	0

For alterations at 199, Hackney-road, for Mr. J. Thurston. Mr. W. W. Clark, architect:—

Parrish (accepted)	£247	10	0

For counter and cabinet fittings, at the Chelsea Pensioners, Queen's-road, Chelsea, for Mr. Brown. Mr. H. J. Newton, architect:—

Godden (accepted)	£255 0 0

Lamps and Gasfittings.
Hodge & Co. (accepted.)

For stabling and lofts in rear of Corporation-buildings, Farringdon-road, for Mr. Gerard. Mr. F. Adam Smith, architect:—

Bamford	£405 0 0
Clark Bros.	390 0 0
Beale	385 0 0
Royal	377 0 0
Sharman	318 0 0

For cemetery chapels and lodge, Dudley, exclusive of boundary-walls and laying out grounds. Mr. Ernest Long, architect. Quantities supplied by the architect:—

Wood & Son	£1,700 0 0
Thompson	1,520 0 0
Buxton	1,400 0 0
Walkerdine	1,395 0 0
Fryer	1,360 0 0
Hall	1,350 0 0
Walker (accepted)	1,291 0 0

For eight houses in Vincent-square, Westminster, for Mr. J. Franks:—

Hatfield & Son	£8,450 0 0
Kirk & Randall	7,148 0 0
Williams & Sons	7,089 0 0
Merritt & Ashby	6,646 0 0
Aitchison & Walker	6,544 0 0
Pickersgill Bros.	6,475 0 0
Patman & Fotheringham	6,475 0 0
Green & King (accepted)	6,344 0 0

For alterations and additions, erection of ovens, &c., at No. 117, Gower-street, for Mr. M. Silver. Mr. W. S. Witherington, architect:—

First Set of Tenders.

Devereux	£2,965 0 0
Whiteley	2,674 0 0
Hayworth	2,242 0 0

Second Set, for same Work.

Staines	2,476 0 0
Priestley	2,110 0 0
Taylor & Parfitt	1,999 10 0
Palmer	1,995 0 0

For forming roads, drainage, &c., on the Hither-green Estate, Lewisham, for Professor Attfield. Mr. Charles Young, surveyor. Quantities not supplied:—

Corne	£1,063 0 0
Champion	1,050 0 0
Woodhams Bros.	931 0 0
Wilmot & Co.	906 0 0
Warne	870 0 0
Merrett	825 0 0
Inpacke	702 5 9
H. Woodhams	690 0 0
Budd	680 10 0

For rebuilding 8 & 9, Ivy-lane, Newgate-street. Mr. W. Wimble, architect:—

Gillett	£5,103 0 0
Hoare & Son	4,444 0 0
Scrivener	4,420 0 0
Ramsay	4,396 0 0
Brass	4,343 0 0
Falkner	4,195 0 0
W. & F. Croaker	4,076 0 0
Lawrance	3,876 0 0
Mortar	3,783 0 0

For the reinstatement of Roy's Wharf, Stepney, for the Commercial Union Fire Insurance Company. Messrs. Davis & Emanuel, architects. Quantities supplied by Mr. H. P. Foster:—

Brass	£2,520 0 0
Grover (accepted)	1,984 0 0

For the erection of proposed new offices, for the Guardians of the Portsea Island Union, Portsmouth. Mr. C. M. Houghton, architect. Quantities supplied by Mr. H. P. Foster:—

Quick	£5,575 0 0
Roberts	5,550 0 0
Burbidge	5,529 0 0
Damon	5,153 0 0
Hide Bros. & Cook	4,985 0 0
Hayter	4,415 10 0
Evans Bros.	4,400 0 0
Barwicker	4,300 0 0
Lewis (accepted)	4,110 0 0
White	4,050 0 0

For new wing, alterations, &c., to Homefield, Merton, Surrey, for Mr. R. Harland. Mr. Alfred Jowers, architect. Quantities by Mr. John M. Gritten:—

Carter & Son	£2,397 0 0
Conder	2,291 0 0
Longmire & Burge	2,238 0 0
Amer	1,990 0 0

For repairing nine houses at Wickham-street, Hoxton, for Mr. Mace:—

Taylor & Parfitt (accepted)	£139 0 0

For erecting two cottages, with laundry adjoining, rain, water and sewage tanks, drained into brook, at Woodfield-near Harfield. Mr. T. Taylor Smith, architect. Quantities supplied by Mr. W. H. Pipe:—

Fairhead	£798 0 0
Ginn	737 0 0
Ireson	675 0 0
Bentley	633 0 0

For building detached villa in Margery Park-road, Forest-gate, for Capt. P. Thompson. Mr. J. F. Wesley, architect:—

Tillett	£1,144 0 0
Walker	1,125 0 0
Holland	1,118 0 0
Harris & Wardrop	1,098 0 0
Lima	1,050 0 0
Palmer & Son	1,040 0 0
Houghton	995 0 0

For alterations to shop in Bow-road, for Mr. G. Emery. Mr. J. F. Wesley, architect:—

Hearle & Son	£937 0 0
Wood	913 0 0
Palmer & Son	891 0 0
Curtis	879 0 0
Harris & Wardrop	846 0 0
Atherton & Latta	840 0 0
Holland	839 0 0
Johnson	817 0 0

For alterations to the Eagle and Child public-house, Forest-gate, Essex, for Mr. J. Jones. Mr. J. F. Wesley, architect:—

Poulson	£747 0 0
Palmer & Son	740 0 0
Harris & Wardrop	735 0 0
Holland	722 0 0
Walker	660 0 0
Taylor & Parfitt	649 0 0

For three houses, Victoria-road, Blackheath. Mr. Horace T. Bonner, architect:—

Penny	£4,105 0 0
Gerrard	3,977 0 0
Staines	3,884 0 0
Burman	3,780 0 0
Higgs	3,732 0 0
Kirk	3,725 0 0
McCowan	3,353 0 0

For the construction of new road and line of sewers on the Earlsfield Estate, Wandsworth Common, for Mr. R. Davis. Mr. T. J. Lynes, surveyor:—

Nowell & Robson	£7,700 0 0
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